REPORT

EXECUTIVE COMMITTEE

Ohrid, The Former Yugoslav Republic of Macedonia, 23 & 24 October 2003

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

Sixty-ninth Session

and the

Rome, 1 December 2003

Extraordinary Follow-up meeting of the Executive Committee

Food and Agriculture Organization of the United Nations

AGA: EUFMD/XI/03/1

EUROPEAN COMMISSION FOR THE CONTROL OF

FOOT-AND-MOUTH DISEASE

REPORT

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2003

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INTRODUCTION

The Executive Committee of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD) held its sixty-ninth Session in Ohrid, The Former Yugoslav Republic of Macedonia on 23 and 24 October 2003.

Members of the Executive Committee present were Dr Karin Schwabenbauer, Germany (Chairperson), Dr Yanko Ivanov, Bulgaria (1st Vice-Chair), Dr Slobodan Čokrevski, The FYR of Macedonia and Dr Nihat Pakdil, Turkey.

Apologies for absence were received from Dr Stylas, Dr Bálint, Dr Willeberg, and Dr Marabelli.

Present as observers were: Dr Kris De Clercq, (Belgium), Chairman of the Research Group; Dr Alf-Eckbert Füssel, EC, Brussels; Prof. Dr Nikola Belev, OIE (President of the OIE Regional Commission for Europe and Regional Coordinator for East European Countries); Dr David Mackay, WRL.
FAO was represented by Dr Yves Cheneau, Chief of the Animal Health Service.

Additional observers present were Dr Svetlana Tomeska Mickova, (The FYR of Macedonia) and Dr Sinan Aktaş, (Turkey).

The Secretariat was represented by Dr Keith Sumption (Secretary), Dr Dónal Sammin, (Associate Professional Officer) and Ms Egiziana Fragiotta, (Administrative Clerk).

The meeting was chaired by Dr Karin Schwabenbauer, Chairperson of the Executive Committee. She opened the meeting by thanking the Director of Veterinary Services, Dr Sloboden Čokrevski and his staff for organising the meeting in such a beautiful location. She welcomed all those present in particular the representatives from the OIE, Prof. Nikola Belev, President of the Regional Commission for Europe; the EC, Dr Alf Füssel, whose contributions towards the discussions are always welcome, and Dr David MacKay of the WRL, Pirbright. She also welcomed the presence of Dr Yves Cheneau, who was attending on behalf of FAO, and informed the meeting that this would be the last Session he will attend due to his retirement at the end of November. Gratitude was expressed on behalf of the Executive Committee to the host country for the arrangements of the meeting. The Secretariat of the Commission was thanked for the technical assistance provided and for practical arrangements with the organisation of the meeting. A warm welcome was also extended to the Chairman of the Research Group, Dr Kris De Clercq, who was also congratulated for his successful discussions and work with the Research Group. Details of which would be provided during the meeting.

The floor was given to Dr Sloboden Čokrevski, the Director of Veterinary Services of The Former Yugoslav Republic of Macedonia who very kindly organised the meeting. He welcomed all those present to TFYR of Macedonia. He felt that as a newly elected member of the Executive Committee he should take responsibility for the organisation of the meeting. Although not all members of the Executive Committee were present, he wished all a fruitful and successful meeting. He gave a brief description of Ohrid, which is protected by UNESCO. It has a total of 365 churches and is considered the cradle of Slavic culture and civilisation, with one of the oldest Slavic universities in Europe. He expressed their willingness to also host future meetings.

Item 1. Adoption of the Agenda

The Chairperson proposed an amendment to the provisional agenda, that the second item be the working arrangements for the meeting, considering that only four members of the Executive Committee were present. The Agenda was adopted with this modification.

Item 1. Adoption of the Agenda
Item 2. Working arrangements for the current Session

Item 3. Progress on the recommendations of the 35th General Session

3.1 FMD Surveillance
- Risk situation and priorities for EUFMD support for sample delivery to WRL/RRL

3.2 FMD control in Turkey
3.3 Regional Control of FMD in countries bordering Turkey
- The Caucasus – Georgia, Armenia and Azerbaijan
- FMD surveillance and control in Iran
- Development of a major regional project for development of disease-free zones along the border with Turkey

3.4 Matters referred to the Research Group Session, 2003
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Item 4. Vision for EUFMD – 50th anniversary and the second 50 years

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- 6.1 Involvement of the Executive Committee members in Commission activities
- 6.2 Member countries
- 6.3 Procedures for election of the Research Group
- 6.4 Session of the Research Group - 2004
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- 6.6 Media officer
- 6.7 Location of 70th Executive Committee Session

Item 7. Adoption of the draft report
Item 8. Closure of the Session.

Item 2. Working arrangements for the Session

Dr Schwabenbauer expressed her disappointment at the absence of half of the Executive Committee members, thus resulting in an insufficient number for Executive decisions. She proposed to proceed with the discussions and to hold a follow-up one day meeting to take the final decisions; Dr Marabelli had been contacted in this respect and has agreed to host the meeting in Rome in December. In addition, Dr Schwabenbauer explained that she would use this meeting to explain *to all members of the Executive Committee* the importance of proceeding with the goal of the Executive Committee and that top priority should be given to the Executive Committee sessions.

Some general discussion on this issue pursued. It was suggested that a system of remote voting be implemented in order to reduce the need to meet in person. However, it was felt that meetings were essential to enable members to familiarise themselves with the arguments before decisions were made. The possibility of reducing the number of Sessions was discussed. Under the Constitution, the Executive Committee must meet at least twice between any two successive regular sessions of the Commission. At present there have been a General Session and Executive meeting in year one of the biennium, and two Sessions of the Executive in year two, and therefore one of the three Executive Sessions in a biennium could be omitted. A further reduction to one meeting per year would require changes to the Constitution of the Commission.

Dr Yves Cheneau informed the meeting that changes to the Constitution require the approval of the Director General of FAO and should be presented at least 120 days before the General Session. The Constitution clearly indicates the rules of procedure with Executive Committee meetings. The Commission has a membership of 33 countries and these countries are represented by the Executive Committee which consists of 8 members, elected on a personal basis to serve the membership. Changes

will occur in the next year with the addition of 10 new member states to the EU. In the past, a balanced geographical representation of EU and non-EU countries has been maintained. This may no longer be necessary. The selection of the members of the Executive Committee should be based on their willingness and availability to work and attend the Executive Committee Sessions. The results achieved deserve to be considered as a benefit to member countries. One option would have been to cancel this meeting but this would have been unfair to the Host country and to those who made the effort to attend. He agreed with the Chairperson's proposal to hold a follow-up meeting as soon as possible. If not, the Commission's future will be endangered. Although the idea of tele-conferencing is an interesting one for the future, it is not appropriate at present as it is more important at this stage that the delegates are convinced of the seriousness of the Executive to the work of the Commission.

Dr Schwabenbauer asked for the opinions of those members present. It was felt that actions of those not attending had now resulted in an additional meeting, and therefore twice the effort and expense for those present. The Secretary of the EUFMD proposed that the Secretariat would look into the possibility of funding the attendance of those members present in Ohrid to attend the extraordinary meeting in December, as an exception to the normal situation.

Dr Schwabenbauer reminded the meeting that 2004 will be an important year as it is the 50th Anniversary of the EUFMD. It will not only be a year of celebrations but it will also be decisive for future directions. The Chairperson's efforts to interact with members of the Executive regarding involvement in the decision making were supported.

Dr Kris De Clercq, the Chairman of the Research Group has also encountered problems with the attendance of some members of the Research Group even though they are given 12 months notice. He supported the proposal to hold an extraordinary meeting. However, clarification was requested as to whose presence would be essential.

The first priority is for the 8 members of the Executive Committee and the most important observers would be the representatives from the EC and the OIE. The date proposed for the extraordinary meeting was **Monday, 1 December 2003**. (This was later confirmed with Dr Marabelli.)

In response to those members who are unable to attend, one option could be to ask the member to nominate a delegate as an *observer* or the Secretariat/Chairperson could ask the member if he/she wishes to resign. Since observers cannot vote, the latter option would enable voting through appointment of new members until the following General Session.

Conclusion

1. An extraordinary Session of the Executive Committee is urgently required to decide on the programme of activities and financial support proposed by the Secretariat.

2. It is essential that Executive Committee Sessions are well-attended by the elected members and that these members are committed to actively participating in the work of the Commission.

Recommendations

1. The Executive Committee recommends that a one-day Session of the Executive Committee be held in Rome on 1 December 2003, to be organized by Dr Marabelli.

Item 3. Progress on the recommendations of the 35th General Session

3.1 Risk situation and priorities for EUFMD support for sample delivery to WRL/RRL

Dr David Mackay presented an update on the FMD risk situation from the WRL, Pirbright (**Appendix 2**). He highlighted the areas of particular change or risk and noted the lack of submissions from Sub-Saharan Africa. Isolates of FMD virus received at the WRL in 2003 were mostly types O and A. Type O viral

isolates were received from Bolivia, Paraguay and Argentina. Nothing exceptional was noted about O-type isolates from the Middle East/Asia. The geographical distribution of serotype A, the most diverse group genetically and antigenically, remains unchanged. However, the re-emergence of A Iran 99 in Turkey was noted whereas type A isolates received from Bhutan were similar to type A viruses isolated from the Balkans in 1996. Antigenic diversity of type A isolates was indicated by comparison with vaccinal strains. Some isolates were covered by A Iran 96 and others by older A strains but only a few isolates were covered by the classic type A22. No immediate threats to Europe from new type A viruses were identified but the situation requires careful monitoring. The SAT2 isolate responsible for causing FMD in Libya was closely-related to isolates from West Central Africa, Saudi Arabia and Eritrea. These isolates are antigenically distinct from South African SAT2 isolates and good antigenic coverage was obtained with the vaccinal strains Saudi 1/2000 and Saudi 2/2000. Asia 1 isolates were received from Pakistan, India and Bhutan in 2003 (and also from Iran in December 2002) but Asia 1 Shamir was found to continue to provide good vaccinal coverage. In summary Dr. Mackay indicated that there were no radical changes in worldwide trends during 2003 but he emphasised that the geographical distribution of samples submitted to WRL in 2001-2003 was very patchy.

Priorities for EUFMD support for sample delivery to the WRL

Dr. Keith Sumption presented a summary of the main findings of a survey (**Appendix 3**) conducted to follow up the recommendations of the General Session, of expert opinion on regions of the world where significant gaps exist in information on circulating strains of FMD virus. The findings of this paper had been reviewed by the Research Group session (Gerzensee, Sept. 16-19, 2003) and the priority areas identified for support of sample delivery were presented to the Executive. China, India and the Horn of Africa/East Africa were the regions identified in replies to the survey as those from which least information was available. The RG had suggested that financial assistance might be most usefully applied to supporting delivery of samples from Sub-Saharan Africa. Dr Sumption further suggested that Sudan might be a useful country to consider for support given the large susceptible livestock population of this country, the extent of pastoralist farming systems, its proximity to Europe and promising initial contacts which he has had with the Sudanese veterinary authorities.

Discussion

Dr Cheneau informed the Session that an FAO project in West African countries should ensure an increased number of submissions from this region to the WRL for typing. Dr Füssel said that the re-emergence of A Iran 99 in Anatolia emphasised the importance of ongoing surveillance activities in Turkey and that this situation should be closely monitored as there is only a limited number of vaccine doses for this strain available in the EUVB. In addition, he suggested that this issue should be tabled as an agenda item for the December Session, when as promised by Dr Aktaş, more data would be available from antigenic studies of this isolate.

Dr Ivanov and Dr Čokrevski were particularly concerned about the lack of data from China as they are under considerable pressure from visiting Chinese delegations and importers in their own countries to allow importation of livestock products from China. Dr Mackay re-iterated that the WRL has very limited information on FMD control, prevailing serotypes and vaccine production in China. Dr. Cheneau said that FAO has only made very slow progress with China on animal health issues. An FAO-sponsored regional project which includes China is dealing with cross-border issues in relation to laboratory capacity and vaccine quality. However, Dr Füssel (EU) clarified principles governing trade of the EU with third countries. Active membership of OIE and transparency in disease reporting are prerequisites for countries wishing to export livestock products to the EU. He contrasted the situation in China with the close co-operative relationship with South American countries (which involves an active process of consultation and exchange of information). He emphasised that the EU is open to trade in livestock products except where there are valid and defensible animal health and public health reasons and he noted that candidate countries are obliged (to a certain extent) to adhere to EC regulations on trade. He reminded the delegates from Bulgaria and FYROM that if their countries allow unrestricted importation of livestock products from China, then they in turn could be removed from the EU 'list' of countries from which meat and dairy products can be imported. As FYROM does not conduct inspections in Argentina, Dr Füssel

recommended that they should consider the findings of EU inspections and that they could monitor the FMD situation there via the European Commission's website. Prof. Belev explained that accession of China to membership of OIE is currently being delayed over the issue of the official name for Taiwan.

The Secretary emphasised that while it was re-assuring that most circulating viruses have close antigenic matches among vaccine strains, there is a major difference between identifying that suitable vaccine strains exist, and preparedness for the use of the identified vaccine strain. In addition, he stressed that more information on circulating virus types in Iran was urgently required to help with risk assessment in Turkey, particularly in relation to Asia1.

Dr Cheneau relayed the sequence of events following the SAT2 outbreak in Libya. FAO's offer of assistance was initially accepted but then refused. There were still questions regarding the source of this outbreak. He emphasised the need to define criteria on which a contract to assist delivery of samples to the WRL is awarded. Dr Ivanov asked to what extent Governments were prepared to co-operate with assisted delivery of samples and also asked about the practicalities of sample collection. In reply, the Secretary said co-operation could not be guaranteed, but that the indications were that Sudan had sufficient manpower to collect samples but required some added inputs. The contract would involve a final payment after satisfactory delivery of the samples and final report.

Conclusions

1. Based on submissions to the WRL, there was a noticeable lack of virus isolates from Sub-Saharan Africa and therefore a difficulty in prediction of vaccine strains required for potential threats from this region.
2. The Research Group report has identified the Horn of Africa, and East Africa as very significant gaps in our knowledge of circulating viruses.
3. The situation with regard to Asia1 in the Near East region is generally positive but requires further clarification, with isolates only from Pakistan in 2003.

Recommendation

1. The Executive Committee recommends that the Secretariat proceeds with contracts to support sample delivery to the WRL from Sudan and one other country in the Horn of Africa/East Africa region (with a budget of up to 20,000 USD in total). Progress should be reviewed by the Executive Committee in six months time.

Item 3.2 FMD Situation in Turkey

Report of Turkey

Dr Sinan Aktaş from the ŞAP Institute, Ankara, presented a paper on the FMD situation in Turkey (**Appendix 4**), summarising a number of presentations which had been given at the recent FAO-EUFMD/EC/OIE Tripartite meeting in Ankara (10 October). He informed the Session that Serotypes O and A are currently circulating in Turkey and he highlighted the recent isolation of an A-type viral strain from outbreaks in Eastern Anatolia closely-related to A Iran 99 but against which the A22 vaccine does not provide protection. Although A Iran 99 has been adapted as a vaccinal strain, the suitability of the recent A-type isolate for use as a vaccinal strain was also being assessed (by experimental inoculation of cattle and collection of epithelial samples for tissue culture to see if the virus is sufficiently stable *in vitro*) This A-type isolate was presumed to represent a recent viral introduction and possibly, may be self-limiting like previous A-type introductions. He described current levels of vaccine production at the Sap Institute, noting that 18.6 million monovalent vaccine doses (including 1.5 million doses of oil-adjuvanted vaccine) were produced in 2003 despite production difficulties. Serosurveys had been conducted in Thrace and Anatolia after the Spring 2003 vaccine campaign and Dr. Aktaş noted that the test-kits, reagents and equipment received from EUFMD had facilitated this serosurveillance. He also stated that South Eastern parts of Anatolia (including small ruminants there) would be included in future serosurveys.

In addition and following discussions at the Research Group Session (Gerzensee, September 2003), 400 sera from vaccinated cattle had been sent to VAR (Belgium) for comparative serological testing, with favourable results. Finally, Dr. Aktas addressed the short duration of protection in vaccinated cattle, especially young animals which exhibited very little protection four months post-vaccination. This observation had also been made in previous serosurveys. Therefore an oil-adjuvanted vaccine has been prepared at the Şap institute. The duration of protection with this vaccine was prolonged compared to alum-adjuvanted vaccine (the protection level decreasing to 50% of vaccinates by 194 days post vaccination at which time animals should be re-vaccinated). As antibody levels induced were different for the different serotypes, one modification for future batches of oil-adjuvanted vaccine will be to increase the 146S content for type O, decreasing it for type Asia 1.

Report of the EUFMD Mission concerning vaccine potency test results

The Secretary reported on the follow-up to the recommendations 18 and 19 of the 35th General Session (**Appendix 5**). A mission was carried out in June 2003 to the SAP Institute to better understand the discrepancy between potency tests results conducted in the SAP Institute and by the Tübingen Institute on trivalent vaccine produced in Turkey. He proposed that the issues that required to be discussed at the Executive were further external quality assurance -for example the oil-adjuvanted vaccine intended for use in Thrace region in 2004; the progress in the implementation of the Mission recommendations; and the commissioning of the Bornova Vaccine Control Laboratory. He noted that the Mission had found that the batch of vaccine sent for external potency test was not representative of the usual potency of vaccine produced, but that the lower performance of this batch in the potency tests conducted at the SAP Institute had not been detected with the test system used. The report had not specifically recommended further external testing of the trivalent as a final product, but instead had focussed on performance of potency tests in compliance with the European Pharmacopoeia (EP) for each serotype, and undertaking sufficient work to establish the relation between serological titres and protection to enable serology to be used with confidence instead of challenge. The appropriate method for final product testing should be selected after thorough review of the results obtained in the full EP compliant tests and past potency tests. Other recommendations concerned concentration of antigen to enable formulation of vaccines with a higher antigen concentration. He noted that the report of Turkey had indicated a significant change in vaccine formulation, through formulation using oil-adjuvant. This change did not invalidate the Mission recommendations.

Discussion

The Turkish authorities were congratulated for both the progress made in post-vaccination serosurveillance and for taking the initiative in developing an oil-adjuvanted vaccine to address the issue of short duration of immunity in primo-vaccinated animals. In response to the question of implementation of the EUFMD Mission findings in June 2003, Dr Aktaş indicated that problems in mid-2003 had affected the work plan of the ŞAP Institute, but that EP-compliant potency tests would be conducted before the spring campaign. In addition as recommended by the Mission, sera would be sent to the laboratory in Riems, Germany, to compare the calibration of the serological tests was in line with an external reference laboratory.

The commissioning of the Bornova facility was discussed, but no date for commissioning was given. Dr Aktaş indicated that the ŞAP Institute was working very hard to improve vaccine quality and was open to external assessment of vaccine potency and quality. The issue of competence of the external laboratory was raised; the Bornova facility would not be able to handle live virus and therefore this would restrict the potency tests to serological assessment. External assurance of the proficiency of the Bornova facility in this respect was therefore also essential and as a minimum this laboratory should be involved in the FAO collaborative exercises organised by the WRL. Dr Mackay brought to the attention of the Session the difference between batch testing of product by an external authority, and manufacturers batch release certification which could be undertaken by a qualified person working for the manufacturer. Dr. Aktaş proposed that different options for external QA would be considered by the Turkish authorities and would be presented at the next session of the Executive Committee.

Report of the EUFMD Mission to eastern Anatolia, July 2003

Dr Sammin presented the principal findings of the EUFMD Mission to eastern Anatolia conducted in July 2003 (**Appendix 6**). The purpose of the Mission was to gather information that would assist in better defining the country needs relating to FMD surveillance and control, focussing on regions which are significant in the epidemiology of FMD in Turkey. Several recommendations concerned follow-up actions that could be addressed during or after the Regional project (FAO TCP/RER/2903). These included the revision of procedures and forms used during FMD outbreak investigation to enable tracing; practical application of these revised procedures/forms; development of the use of GIS to prioritise allocation of resources in tracing and control measures; and pilot studies at significant animal markets on potential surveillance and control measures. A further recommendation was that a risk assessment (to establish the risk of virus entry) should be prepared for each province in Eastern Anatolia. The Secretariat had discussed the follow-up actions with the Turkish authorities and identified the cost of the support required. The follow-up actions had the potential to greatly assist the effective use of tracing procedures, and the understanding of virus circulation in this region.

Discussion

Dr. Cheneau emphasised that major progress in disease control had been made in Turkey over the past five years and that the proposed pilot studies would simply assist Turkey's own initiatives whilst the Chairperson emphasised that recommendations of this Session should be realistic and achievable. The importance of animal markets and the problems of finding acceptable levels of control on movement into and out of markets were discussed. Markets usually represented a very high risk for virus transmission and evaluation of the options for effective surveillance at markets was strongly supported. It was noted that unpopular controls on animal marketing could have the opposite effect, of shifting markets away from regulation and surveillance. The use of data derived from the animal identification scheme to plan vaccination campaigns was questioned. In response, it was conceded that the proportion of individually-identified animals was insufficient to estimate the total animal population. However, the necessary information was provided to the provincial administration by the headmen of each village.

Conclusions

1. Post vaccinal sero-surveillance was conducted in the Thrace and Anatolian regions after the Spring 2003 vaccination campaign and provided valuable information, particularly on the level of protection in young animals. The activity was facilitated by the supply of kits, reagents and equipment from EUFMD through the EC/EUFMD Trust Fund.

2. The proposal of Turkey to further investigate the herds and flocks in which NSP sero-positive animals were found in Thrace region is strongly supported.

3. The re-emergence of A types similar to A Iran 99 in Turkey is a cause for concern. The proposal of Turkey to carry out cross immunity trials to identify the suitability of the current type A vaccine is strongly supported.

4. Turkey proposes to use a new oil-adjuvanted vaccine in Thrace region in spring 2004. Initial results suggest a much longer duration of immunity. However, full potency tests according to the European Pharmacopoeia have not yet been undertaken.

5. External quality assurance of vaccine at the Bornova Institute has not yet commenced and facilities are unlikely to be available there for this purpose at least until the end of 2004.

6. An EUFMD Mission in July to Anatolia developed recommendations and follow up actions to establish feasible FMD tracing procedures in vaccinated populations and in animal markets.

Recommendations

1. The Executive Committee recommends that the recommendations of the June Mission (on potency testing of FMD vaccine produced at the SAP Institute) be acted upon and results reported to the 70th Session of the Executive Committee. The Executive Committee recommends that the Turkish authorities undertake full potency testing of the oil-adjuvanted vaccine intended for use in Thrace region, in compliance with the European Pharmacopoeia.

2. That a timetable for introduction of a system of external quality assurance be reported by the Turkish authorities to the extraordinary session in December.

3. The Executive Committee recommends that Turkey continues with post-vaccinal sero-surveillance and reports the plans for 2004 to the Executive Committee in December.

4. Guidelines for post vaccination surveillance should be developed by the Research Group to assist evaluation of vaccination campaigns in the region, including establishment of criteria for success.

5. The Executive Committee supports the Secretariat in its request for funding from the EC for improvement of FMD surveillance and tracing procedures in Turkey and in its implementation of the proposed programme if funding is agreed.

Item 3.3 Regional control of FMD in countries bordering Turkey

The Caucasus - Georgia, Armenia and Azerbaijan

The Secretary presented a summary of the action by the Commission in support of FMD control in Georgia, Armenia and Azerbaijan in 2003 (**Appendix 7**), and as a follow-up to the specific recommendations of the General Session. He presented several options for the Commission in support of FMD control in this region.

The short term support had been largely successful in the aim to implement vaccination in cattle along the border of each of the countries with Turkey and Iran. No outbreaks of FMD were reported in the three countries in 2003 up to the time of report, and none in Turkey have been reported as being traced to introduction from these countries. However, the confidence in the lack of infection is not high since the level of surveillance is very limited, and outbreaks in Georgia and Armenia in 2002 had not been officially reported. The consultants' reports indicated that vaccine was deployed in the border regions according to the plans drawn up with EUFMD consultants; in Georgia about 100,000 doses were used in internal border regions. The sero-monitoring conducted by ARRIAH under Letter of Agreement with FAO indicated herd immunity levels of 55% to 61% in the three countries 2.5 to 3 months post-vaccination. However the effective herd immunity may be less, since the cut-off applied in the test is relatively low, indicating the need for standardisation of sero-monitoring.

The Secretary also presented a summary of other actions taken following the recommendations of the 35th General Session. A meeting had been held at the OIE in May 2003; at this meeting it was agreed that support for surveillance was essential, and that EUFMD should address this through training for laboratory staff. Subsequently, the Secretary has agreed potential training with the NVS in Bulgaria and the SAP Institute in Turkey and assisted in the formulation of an FAO technical co-operation project to address principally FMD surveillance and active surveillance for rinderpest. Further, following discussions with the EC and FAO representation in Ankara, the Secretary drafted an outline of a major regional FMD control project for the 6 countries neighbouring Turkey. A paper on this major initiative was summarised by the Secretary (below).

FMD surveillance and control in Iran

The Secretary reported that the project approved by the 35th General Session had been formulated into a project document. This document had been approved by the Iranian Veterinary Organisation and the request for funding had been submitted to DG-SANCO.

Development of a major regional project for development of disease free zones along the border with Turkey

The Secretary summarised the discussions that lead to the project brief being prepared. The idea for the project arose during discussions in June 2003 between the Secretary, the FAO-Representative in Turkey, and the EC representative for agriculture in Turkey. The Secretary had agreed to prepare a project brief. Potential funding of up to 40 million € might be available for the project; however the division of responsibilities for the countries in the region within the EC would create difficulties for the development of a single project. Further, it was unlikely that such a large project could be funded before a decision is reached on entry of Turkey to the EU, in December 2004. Therefore, the EUFMD Commission must continue "work as normal" - in the expectations that no additional large control project would be implemented before 2006 at the earliest. In summary, the potential project brief involved development of a "watershed" for animal disease between Turkey and its eastern neighbours. It envisages development of internationally recognised disease free zones in each of the neighbouring countries, over a 5 year period, involving up to 3 years to establish necessary levels of surveillance, and disease management capability in participant countries, including Turkey. Full formulation missions are required to establish the level of input and timetable for expected outcomes, and feasibility in each country.

Discussion

Dr Ivanov raised the question of the level of progress in FMD control in the region. In response, Professor Belev considered that very significant change had occurred in the leadership of the veterinary services, and some progress towards improved Government recognition and support for veterinary services. The Chairperson proposed that an annual Tripartite meeting would be established for the Transcaucasus countries to discuss the FMD situation and technical issues relating to disease control in the region and that this would be organised by EUFMD. However Professor Belev stressed the importance of Government participation at the political level and it was suggested that OIE might organise periodic meetings for this purpose.

The question of vaccination in the border region of Nagorny-Karabakh with Iran was raised. The Secretary indicated he had no information from Armenia, or the EUFMD consultant who visited Armenia, to indicate vaccine supplied to Armenia had been used in this region. It was agreed this would be taken up with the representative of Armenia at the meeting scheduled for 1st November.

The Chairperson indicated that the large regional initiative was an extremely important project for protection of Turkey and of Europe and should be discussed further at the meeting full meeting of the Executive Committee in December.

<u>Conclusions</u>

1. The short term programme in the Caucasus region, which had the prime objective of the protection of Turkey against introduction of FMD from this region, was successful in establishing a buffer zone of immunised animals in spring 2003 ahead of the main season of FMD risk, along the southern borders of Georgia, Armenia and Azerbaijan with Turkey, and along the border of Azerbaijan with Iran. Further information is required on the vaccination in parts of the region controlled by Armenia along the border with Iran.

2. Surveillance information gained through the LOA with ARRIAH has provided useful additional value under this programme.

3. The surveillance situation is critically weak in the Caucasus region, and constrained by the lack of suitably-trained staff and the limited availability of diagnostic reagents. In addition, communication of the disease situation remains a major problem in this region.

4. The first priority of the EUFMD Commission in this region should be the protection of Turkey as a member state of the Commission, against entry of FMD infection from neighbouring countries.

5. A request has been submitted to EC for funding, with the aim of improving surveillance information for high risk regions of Iran.

6. The EUFMD Commission has produced an outline of a 20-40 million euro project for establishing zones free of FMD over a 5 year period in the countries neighbouring Turkey, from the Caucasus to Syria, to prevent inward movement of exotic FMD viruses and facilitate eradication of FMD in Turkey. However, this project is unlikely to be funded before 2006.

Recommendations

1. The Executive Committee recommends that annual meetings be held at both technical and political levels to discuss animal health status and disease control initiatives in the Caucasus region. It is requested that OIE organize the meeting of Government representatives from these three countries and from Iran with the participation of FAO and EC, to increase the awareness of the importance of veterinary services in FMD control in this region. In addition, it is recommended that the technical level discussions be organised by the EUFMD Commission. (The model of the successful FAO/EC/OIE Tripartite for the southern Balkans is recommended, with funding from the EC/EUFMD Trust Fund).

2. The Executive Committee recommends that diagnostic materials/kits be provided to the three countries (Caucasus region) to establish basic ability to confirm the presence of FMD by antigen detection and NSP ELISA tests, and sero-monitoring of national vaccination programmes, with reports to be supplied at the Tripartite Meeting or to the Executive on the effectiveness of their use.

3. The Executive Committee recommends that if funding is approved, the Iran surveillance centre project is implemented without delay.

4. The Executive Committee recommends that a long term programme for development of disease free zones in each of the countries neighbouring Turkey be a component of a regional project for protection of the borders of Turkey, to be formulated by FAO with participation of international partners.

Item 3.4 Matters referred to the EUFMD Research Group of the Standing Technical Committee, and Item 3.5 Priorities for the Research Group 2003-2005

The Chairman of the Research Group, Dr Kris De Clercq, presented a summary of progress on the matters referred to the Research Group. The majority of matters were addressed at the closed Session of the Research Group at Gerzensee, Switzerland, and he circulated a summary of the Session findings (**Appendix 8**). The priority and time available at the Session had been given to items where weight or importance had been attached at the General Session, particularly post-outbreak, post-vaccination surveillance; priority setting of antigens in the FMD vaccine banks; laboratory standards for virus detection as well as for serology; and contingency planning for maintenance of laboratory services during FMD emergencies. In some of these items, experts from outside the group were invited to give presentations and to advise. This included veterinary epidemiologists from Uruguay, USA and Denmark to discuss surveillance issues, and a medical virologist to discuss the lessons which may be applicable to FMD laboratories in establishing proficiency testing in molecular diagnostics. In most of the items discussed, resolution of the issue would require further work by the Group; a workplan was therefore

developed, with involvement of each of the members in one or more tasks. He indicated that the workplan, and the mostly even distribution of tasks meant that further priority setting was not required to make the plan manageable, but that some additional resources were necessary. At this stage, the costs had been estimated for two items, the collection of sera for use in comparison of candidate DIVA tests against SAT2 virus, and the cost of a workshop on contingency planning for FMD laboratories, to take place in Spain in April 2004.

Members should report their progress to the Secretariat and to the Chairman of the Research Group. All of the groups would report progress at the Research Group Session in September 2004, but earlier reporting is expected for several groups in order that the implications and uptake of the findings be discussed at the workshop for veterinary laboratories in Spain.

Discussion

Dr Ivanov raised the issue of the scientific basis for disinfection protocols for use in control procedures at the time of outbreaks and informed the Session that the NVS of Bulgaria had undertaken an extensive review of the subject, which will be published in the form of a manual. Dr De Clercq indicated that this issue should be addressed by the Research Group and that this review could be very helpful to Dr Pálfi who had been earlier requested to collate information on the subject.

Dr Füssel (DG-SANCO) congratulated the Research Group on a very successful meeting and emphasised the importance that the European Commission attached to having guidelines for post-outbreak, post-vaccinal surveillance for FMD. The issue of further review of the Guidelines for surveillance for FMD, which had been adopted by the OIE in May 2003, was discussed. It would be important that the position of the research group, or experts of the group, be available in sufficient time to be considered by the Scientific Committee of the OIE, and by the European Commission. In addition, as far as possible the Group is encouraged to co-ordinate activities with the OIE ad hoc group, on validation of NSP tests and related diagnostic tests. In particular the Chairperson said that OIE should be informed that working documents will be available from the EUFMD workshop by the end of April 2004 and in advance of the deliberations by the Code Commission at the OIE General Session in May. The cost of the additional inputs was discussed, and the representative of DG-SANCO supported in principle the proposal relating to comparison of candidate DIVA tests at a cost of about US$ 30,000, and workshop for all member states on laboratory contingency planning at a similar cost.

Conclusions

1. The Research Group has produced a work plan for the biennium, 2003 to 2005 which includes a workshop for national reference laboratories on the subject of contingency planning for FMD laboratories. The workplan is appropriate to the recommendations of the General Session.

2. The Executive Committee supports the work of the RG to identify the most suitable diagnostic test system to be applied to differentiate vaccinated from infected animals, through comparison of candidate tests with the OIE reference test produced by PanAftosa, PAHO.

Recommendations

1. The proposal in the workplan of the RG to review the existing guidelines for post-outbreak (post-vaccinal) sero-surveillance is strongly supported and should be urgently conducted to enable the document prepared to be available to member states and to the OIE scientific commission.

2. The Executive Committee supports the proposal to hold a contingency planning workshop for FMD laboratories, with funding from the EC/EUFMD trust fund.

3. The Executive Committee supports the proposed request, through the EC/EUFMD TF, to fund specific support activities that will assist the comparative evaluation of candidate DIVA tests.

Item 4. Vision for EUFMD – 50th anniversary and the second 50 years

The Chairperson proposed that members should consider the issue of the longer term vision for the Commission and bring their thoughts on this issue to the meeting in Rome on 1st December.

The Secretary was asked to outline the events planned. He proposed that an event be held in Ireland on 11th June, close to the anniversary of the foundation of the Commission (12th June 1954). Considering that Ireland was a founding member, provided the first Chairman of the Commission, and has remained very supportive of EUFMD activities, the Secretary approached the CVO of Ireland and received a positive response. This was welcomed by the members present. He suggested the 70th Executive Committee Session be held on 9 and 10 June 2004, enabling members to be present for events on 11 June. The possibility of a film or documentary being produced to record the historic achievement of the 50 years was also raised; the aim would be to produce something of wide interest across Europe, recording the experiences and changed situation in a range of countries. So far firm interest has not been received by TV stations approached in UK and Ireland.

He suggested the 11th June event should commemorate the effort of the veterinary services since the achievement had occurred through the dedication of a very large number of veterinarians engaged in different labours, in the field, the laboratory, in administration and international affairs. Since the 50 year campaign had the nature of a battle, "campaign medals" may be appropriate in recognition of the effort. The other major event in 2004 for the Commission is the Open Research Group Session, planned for Greece in September 2004. It is hoped that the Session will see even wider participation from FMD infected (and free) countries than at Izmir, and should be the most significant FMD scientific event in 2004.

In discussion, Dr Mackay indicated the WRL was ready to assist production of a documentary through access to the archives. The Chairperson indicated that the Commission would produce an archive of the Reports of the last 50 years in electronic format, since most reports were in paper format but much scientific information was not published elsewhere.

Item 5. Finance

The Chairperson proposed this item be held over until the meeting on 1st December. This was agreed.

Item 6. Matters arising

6.1 Involvement of Executive Committee Members in Commission activities

The Chairperson proposed that the issue of greater involvement of the Executive Committee members ought to be discussed at this Agenda point. She suggested that one mechanism would be through members accepting specific responsibilities. Dr. Ivanov seconded this proposal saying that members should be prepared to be involved beyond simply attending two meetings per year. It was suggested that specific areas and primary contact points be defined according to the specific interests and the experience and expertise of members. Examples of where Executive Committee members may make additional contributions were cited. The Secretary said it would be very helpful for him to have one or two Committee members to whom he might send specific documents on particular subject matters for review and comment. However, Dr. Cheneau reminded the Session that although it was alright to have defined tasks for individual members that the Executive Committee had a collective responsibility in decision-making. It was agreed that the issue be discussed as an Agenda item at the December meeting.

6.2 Member countries

No new applications for membership had been received since the 35th General Session, despite the earlier correspondence of the Secretary with the CVOs of Latvia, Estonia and Slovakia. Following discussion, it was recommended that further approaches be made, and should occur at the highest level between the

FAO and the country concerned. In addition to the countries mentioned, which will become members of the EU, contact should be made with countries such as Moldova, and Bosnia-Herzegovina. The Secretary agreed to take this forward.

6.3 Procedures for election of the Research Group

The Secretary outlined the paper on election procedures for the EUFMD Research Group. He emphasised that the Constitution or Rules of Procedure do not specify the number of members, the criteria for their selection or eligibility, or the procedure for the election. As a consequence some issues had arisen concerning the availability of members to undertake the functions now expected and the role of the group in relation to involvement of less experienced researchers with the aim of sustaining expertise in Europe. The paper presented had been discussed by the Research Group Session, and the suggested changes incorporated. He indicated that no decision was required at this Session, but that if a procedure was to be altered at the next general Session, a decision by the 70th or 71st Sessions would be important.
In discussion, Dr Cheneau advised that the FAO Legal Office should advise on the procedure and that a paper should be prepared for presentation by the Secretary at the next Session. This was agreed.

6.4 Session of the Research Group – 2004

The Secretary reported that the FMD Institute of Athens had offered to host the Session in autumn 2004. The Secretariat had very much welcomed this offer, which should be attractive for participation of countries around Europe and the Mediterranean basin. The date and location had not yet been fixed. A letter from Greek authorities indicating their offer to host the Session was required before FAO could proceed with formal arrangements and notifications of the Session.

6.5 Coordination of research on FMD in Europe

The Secretary reported that this issue, which had been raised at the General Session, was being addressed in several ways; first, a project had been developed and submitted to the EC for support of research co-ordination on FMD (ERA-NET proposal); second, the Secretariat plans to undertake a review of research in Europe on FMD every two years. The project proposal, put together after a great effort by Kris De Clercq, was rejected without review on a technicality over eligibility of a partner, but might be re-submitted in 2004. The second activity had not yet been conducted. The effort involved would be considerable.

6.6 Media officer

The Secretary reported that the Research Group had discussed this issue and considered that exchange of information between members on scientific issues relating to FMD could be much improved. On several occasions the media had contacted Research Group members for their opinion on reports emanating from the work of other members, of which they had not been informed. Dr Griot of the Institute for Virology, Berne, had offered to continue to exchange scientific information sent to him. A formal media officer position was not considered necessary if this arrangement works satisfactorily.

6.7 Location of 70th Executive Committee Session

The Secretary was in contact with the CVO of Ireland and it is anticipated that the next Session will be in Dublin on 9 and 10 June 2004.

Item 7. Adoption of the draft report

The Conclusions and Recommendations of the draft report were circulated and adopted with the inclusion of the agreed changes. Additional sections would be added and the report of the Session would be circulated before the 1st December meeting.

Item 8. Closure of the Session

The Chairperson thanked all of the participants for the effort to attend the Session and their valuable contributions. She proposed a vote of thanks to Dr Čokrevski and his team for the wonderful hospitality and practical arrangements which enabled the meeting to be conducted very efficiently.

FOLLOW-UP MEETING OF THE EUFMD EXECUTIVE COMMITTEE

Rome, 1 December 2003

INTRODUCTION

The Executive Committee of the EUFMD held its follow-up meeting to the 69th Session in Rome on 1 December 2003.

The Chairperson, Dr. Karin Schwabenbauer, opened the meeting by thanking all for attending the meeting, and particularly Dr. Romano Marabelli for providing the venue and the Secretariat for preparing the working documents.

Members of the Executive Committee present were: Dr. Karin Schwabenbauer (Chairperson), Dr Slobodan Čokrevski (TFYR of Macedonia), Dr Romano Marabelli (Italy), Dr Nihat Pakdil (Turkey), Dr Vasilios Stylas (Greece), and Dr Preben Willeberg (Denmark).

Apologies were received from Dr. Yanko Ivanov and Dr. Tibor Bálint.

Observers present were: Dr Alf-Eckbert Füssel, EC, Brussels and Prof. Dr Nikola Belev, OIE (President of the OIE Regional Commission for Europe and Regional Coordinator for East European Countries).

The EUFMD Secretariat was represented by Dr Keith Sumption (Secretary), Dr Dónal Sammin (Associate Professional Officer), and Ms Egiziana Fragiotta (Administrative Clerk).

Item 1. Adoption of the Agenda

The agenda was adopted without change **(Appendix 9)**.

Item 2. Report and Recommendations of the 69th Session held in Ohrid

The Draft report of the Session held at Ohrid was presented by the Secretary and items discussed in sequence. The meeting approved the report and recommendations. Points raised in discussion are summarised below.

Item 2 - Frequency of Sessions

The Secretary reminded members of the Executive Committee that the practise of three meetings between General Sessions was relatively recent, and according to the EUFMD Constitution, only two Sessions were required of the Executive Committee between General Sessions. However, he advised against reducing the number of meetings as this could reduce the involvement with ongoing issues, and the preparation of future work plans for the following biennium, which is an important part of the Session before the General Session.

The Chairperson proposed that additional meetings between the Chair, the Vice-Chairs and the Secretariat should take place between Sessions. Dr. Schwabenbauer was anxious to ensure that Committee members stayed in close contact between Sessions. She suggested that one of the Sessions each year should take place in a venue outside of Rome and the other possibly in FAO Headquarters, Rome. Furthermore, she proposed that the 71st Session of the Executive Committee which is to be held at the end of next year could coincide with the Session of the Research Group of the Standing Technical Committee of the EUFMD ("RG"). Dr. Willeberg seconded the last suggestion and asked for clarification about the meaning of an Open Session of the RG. The Secretary explained that each RG Session had a closed meeting to discuss scientific issues raised by the Executive Committee, and would include progress reports on the actions in the workplan. At the last Open Meeting, the high attendance and number of presentations

limited time for the "closed" aspects and the plenary sessions needed to be more restricted in future. A practical issue would arise with the timing of the Executive Committee Session as the RG Session takes four days and next year the Session may also be followed by a one-day session of the Swine Vesicular Disease (SVD) group. The Chair suggested that the Executive Committee members could join discussions of the RG on the workplan progress and that the Executive Committee would then follow up with a second day of separate discussions. The Secretary agreed that this would be possible and stated that the most likely date for the RG session was 10-16 October 2004 and that the venue would be Chania, Crete.

Item 3.1 FMD surveillance – risk situation and priorities for EUFMD support for sample delivery to WRL/RRL

Under item 3 of the report the Secretary provided an update to the meeting. The Secretariat have prepared a Letter of Agreement with the Sudanese Government to assist delivery of specimens to the WRL for virus isolation and typing. The Sudanese Permanent Representative to FAO has been very willing to assist. He also stated that he would keep OIE fully briefed of any developments.

Item 3.4 Matter referred to the Research Group 2003-2005

The Chairperson suggested that the workplan of the EUFMD RG should be reviewed by a member of the Committee. Dr Willeberg agreed to do this. The question of FMD surveillance guidelines was raised. The Secretary stated that it was OIE guidelines that would serve as the reference point and that the review would address aspects of the guidelines where there was most scientific concern, particularly the issue of expected prevalence levels and the minimum requirement for test sensitivity and herd sampling relation to this level. The review would attempt to answer these questions from analysis of previous outbreaks and from studies on the performance of diagnostic tests, therefore adding more information to guide EUFMD, OIE and EC. Alf Füssel stated that at present, the EU had a procedure to lay down guidelines and did not have separate guidelines per se. The OIE guidelines were being used on a provisional basis as the best available guidelines in a consolidated form.

The Chair said that the report from the RG should be sent to the OIE Terrestrial Animal Health Standards Commission (previously known as the Code Commission) to advise them of this work-in-progress. The Secretary informed that the Report of the RG had been sent within a few days to the OIE. He informed the meeting that EUFMD had as yet not been invited to the current OIE Scientific Commission Sessions, in contrast to the past. In discussion, it was agreed that scientific guidance from the RG should as far as possible be independent of policy implications, and that the use of the guidance was a matter for the Executive, the EC, OIE, and EUFMD member states. Dr Füssel indicated the EC have sent recommendations to OIE for improvement of the guidelines and OIE are aware of the need for an improved text.

The Chair asked for suggestions on how EUFMD is to communicate with OIE on attempts to improve PVS guidelines, considering the OIE timetable of meetings. It was proposed that the scientific opinions of the RG should be submitted to both the Scientific and Code Commissions of the OIE, bearing in mind that items tabled at the May Session of either Commission would not be discussed until the following Session.

Item 6.2 Member Countries

The Chair has invited Ukraine to join EUFMD, whilst the Secretary has followed the recommendation of the 69th Session and sent information on membership through the Embassies of several countries, including Latvia, Estonia, Slovakia, Bosnia-Herzegovina, and Moldova.

Item 3 - Matters arising at the 69th Session

3.1 Role and Participation of Members of the Executive Committee

The Chair emphasised that there were only eight members of the Executive Committee, that the issues and actions required involvement of the Executive Committee to guide the Secretariat, and that there was a

need to avoid a similar situation to that which arose in Ohrid, where a quorum of Committee members was not available for decisions to be made. She proposed that the Committee discuss: how to ensure attendance at meetings, how committee members could make a greater contribution to the Commission's activities and the mechanisms through which members would share responsibility.

Dr Willeberg agreed with the Chair and was agreeable to sharing the workload of the Commission but asked about the possibility of sending a substitute to sessions if he were unable to attend. The Secretary reminded the meeting that voting rights were not transferable under the current Constitution but suggested that this clause in the Constitution may have to be reviewed.

Dr. Marabelli agreed that it is important to review the working arrangements. He referred to a time in the 1990s when the abolition of the Commission was being discussed. Now that the FAO and OIE had reached a new agreement, there was a need to build on this, for example for the EUFMD RG to co-ordinate its activities with the Scientific Commission of the OIE. He stressed the importance of international bodies other than the EU dealing with animal health issues in the wider region. He suggested that two or three practical programmes of work be developed, to include the special work with Turkey, the Caucasus and Iran, and perhaps also in the countries bordering the Mediterranean which were close neighbours. Dr Belev agreed that the EUFMD and OIE should co-operate closely. He spoke of eventual enlargement of the EU to 27 states but emphasised that there was now a total of 51 states in Europe.

The Chair asked how all of the recommendations made at the last General Session could be implemented with existing resources and suggested that if there were concrete proposals for which individual members of the Executive Committee would take responsibility, they could then give a progress report on that issue at the next General Session.

The Secretary indicated that it would be very helpful to have contact points within the Executive Committee for different issues. He also supported the suggestion of closer co-operation with countries bordering the Mediterranean basin, for example through a tripartite meeting involving North African countries.

Dr Füssel was of the opinion that the risk situation in areas of Sub-Saharan Africa required attention, as a potential source of infection for the Maghreb region and Europe. The Maghreb countries were well-developed and had quite successfully protected their own interests. He emphasised EUFMD needed to consider different levels of input and support for different regions.

Summing up, *the meeting agreed with the Chair that there is a need for EUFMD to foster closer ties with neighbouring North African countries to discuss risks relating to FMD, and that the issue of other diseases, principally bluetongue could also be considered in this forum.*

Prof. Belev asked that the CIS countries be considered as a priority area. Currently no information on animal diseases was being received from China, but the CIS countries of central Asia are at risk and could provide information on FMD types circulating in the region.

The Chairperson said that the EUFMD Constitution dictated that activities were focussed on Europe and that the primary aim of involvement in North Africa was to protect European member states. The Maghreb countries were at risk themselves, and therefore should be valuable partners in disease control for the region. However, she was not ruling out future involvement of EUFMD in Central Asia.

Dr Čokrevski asked that consideration be given to the situation with regard to veterinary services within member countries of the Commission. If resources were limited he thought that it was more important that support be given to member countries to help with contingency planning and to improve their capacity for disease outbreak investigation. There is a need for translation and better communication to the veterinary services of member countries of discussions on different topics, of decisions made by the Commission and of FMD-related research findings. The experience in FYR of Macedonia as elsewhere was that they were unprepared for FMD when the disease appeared in their country in 1996. To retain a

constant state of preparedness and vigilance it is necessary to keep FMD at the top of the agenda in member countries.

Dr Marabelli stated that the primary purpose of EUFMD was to help member countries to eradicate FMD and that the Commission had much success in achieving this aim over the past 50 years. However, a buffer zone surrounding EUFMD countries was needed and this should be comprised of the three zones/regions for which tripartite meetings have been proposed (the Southern Balkans, the Caucasus region and the Mediterranean basin). In addition it would have to be decided which of the international agencies (EUFMD-FAO, OIE and EC) would do what. The risk of importing FMD from distant locations could instead be addressed by having guidelines regarding the importation of animal products.

Dr Füssel cited the US experience whereby disease control initiatives in Central America have pushed back the frontier as regards the risk of land-borne FMD spread to Panama. He noted that EUFMD could have different levels of involvement in different areas, agreeing that more help was needed in the Former Yugoslav republics, Albania, Moldova and other Eastern European countries in the establishment of early warning systems.

Dr Stylas talked of the success of the Tripartite for the Southern Balkans. He stressed that the situation in North Africa was very difficult with regard to bluetongue and that it would not be quite as easy to establish buffer zones in this region. Training programmes and surveillance activities conducted under the Tripartite in the Balkans could first be extended to the Caucasus and then EUFMD could look to further collaboration with North African countries.

In summary, *the meeting agreed with the Chairperson that the Commission was capable to act on several fronts, and these should be the ones previously discussed, with a balance of effort and actions which should be kept under review by the Executive Committee.*

Regarding involvement of the Executive Committee members in the future work of the Commission, six contact points were identified and agreed.

These were:

1. Oversight of the Research Group:	Dr Willeberg
2. Relations with the OIE:	Dr Marabelli
3. Tripartite on FMD control in the Southern Balkans:	These would be the CVOs of Bulgaria, Greece and Turkey who are currently members of the Executive Committee.
4. Tripartite on FMD Control in the Caucasus:	Dr. Pakdil
5. Tripartite/Co-operation with North Africa:	Dr. Schwabenbauer
6. Strengthening preparedness for FMD control in the member states:	Dr. Čokrevski

In relation to point 2, Dr Marabelli proposed that he and Dr Schwabenbauer meet with Dr Vallat (OIE) in advance of the next Session of the OIE Administration Commission in March.

Item 3.2 *Vaccination against type A virus from Turkey (A/Iran/99 type)*
Item 3.3 *Timetable for establishment of external quality assurance systems for FMD vaccine produced in Turkey*
Item 3.4 *Plan for post-vaccination sero-surveillance in Thrace region of Turkey, 2004*

A paper covering these three items was presented by Dr. Pakdil. He informed the meeting that oil adjuvanted vaccine produced by the SAP Institute had been used for the first time on a large scale, in Thrace region in the autumn. Considering that only FMD serotypes O and A were currently circulating in Turkey, Asia-1 would be included again in the spring campaign but might not be included in vaccines for the autumn 2004 campaign.

Challenge experiments had shown that vaccine prepared from the A Iran 96 strain provided cross-protection against the A Iran 99 strain, but the possibility of including two types of A antigen in future vaccines was still under consideration.

He presented the plan for introduction of external quality assurance (**Appendix 10**), with the accelerated involvement of the Bornova Veterinary Control and Research Institute (BVCRI). He confirmed that the BVCRI would not fully control FMD vaccines until late 2005, but their involvement will begin at the start of 2004, in sterility testing, and in monitoring SAP Institute performed safety and potency tests, and inspection of dossiers for each production batch.

He reported that serosurveillance following the autumn vaccination campaign would commence within the next two weeks and that a report detailing plans for post-vaccinal serosurveillance in 2004 would be prepared within the next month.

The Secretary thanked Dr. Pakdil for his paper which provided helpful clarification and in particular he welcomed the proposal that further animals are tested for the presence of NSP antibodies as a follow-up to the results obtained during post-vaccinal serosurveillance in Thrace. However, he requested further information on the cross-protection experiments with the Type A vaccines and the involvement of the Bornova facility in external quality assurance of FMD vaccines produced at the Sap Institute.

Dr Willeberg asked on what principles post-vaccinal serosurveys in Turkey would be based given that current guidelines were considered to be unsatisfactory. He recommended that sero-surveillance in Turkey provided an important opportunity for field evaluation of NSP tests, stressing that papers presented at the recent ISVEE conference showed that some NSP tests showed poor specificity and sensitivity when used in the field.

The Secretary stated that the FAO workshop on active surveillance to be held in Athens on 8-12 December 2003 under the TCP project for the Thrace region should address issues in PVS. Specifically, the workshop should consider how NSP positive results should be followed up during post-outbreak serosurveillance in vaccinated populations. He re-iterated the workplan of the RG as regards this issue, stating that comparison of commercial and in-house NSP tests was planned in relation to the OIE index test, developed by *Panaftosa,* to identify suitability of alternative tests. He also mentioned that sera from convalescent animals after SAT2 infection were being sought from Zimbabwe, under a Letter of Agreement (LOA). Dr Füssel asked if Zimbabwe were willing to co-operate and if so which NSP tests would be used on the sera. The Secretary said that he had discussed the matter with the CVO, Dr Hargreaves and received his full support. Under the LOA, sera would be sent to the WRL and from there would be despatched to the other participating laboratories, each of which could use their NSP test of choice.

Item 3.5 *FMD control in the Caucasus – Report of the Tripartite Meeting, 1 November 2003*

The Secretary presented a draft report of the meeting in Kiev (**Appendix 11**). He provided further clarification of the summary points (under item 3 of that report): (1) that ARRIAH did not know of FMD outbreaks in both Georgia and Armenia in 2002 and (2) that EUFMD would help to improve the laboratory diagnostic capability in each of the three countries. On the subject of establishing regular tripartite meetings for the Caucasus region, EUFMD was requested to support the costs of attendance of a representative of ARRIAH but the Secretary had deferred a decision to this meeting of the Executive Committee. The Secretary also highlighted the large number of NSP positive animals which had been identified in some areas which strongly suggested viral circulation within the region. The problem of potential false positives arising from use of the locally produced lapinised vaccine required thorough analysis of the data by age of animals, location, and type of vaccine to better identify where true positives may have occurred. This point has been taken up with ARRIAH.

He also informed the meeting that the FAO Sub-Regional office for Central and Eastern Europe, in Budapest, had offered to provide the venue for the next tripartite meeting for the region in Budapest on 15 March 2004.

The Chair said that the Kiev meeting had been useful, but that she had been disappointed on hearing the report of Dr Zakharov (ARRIAH), with the poor level of reporting to the OIE and to the Tripartite of the FMD situation.

The meeting indicated its approval of the Budapest venue. Dr Belev agreed to take forward the issue of a meeting of political representatives from each of the three countries, possibly to coincide, and to inform the Chairperson of his progress in this regard. Dr Belev stressed that contact should also be made with the director of ARRIAH, Dr. Konstantin Grosdev.

It was agreed that ARRIAH should be invited to attend the Tripartite meeting, and it was to be requested that their national authorities support their attendance, as currently occurs with the WRL participation. It was also agreed that their participation in the relevant tripartite meetings should be explicitly budgeted for and stated in any future LOAs with the Institute.

Item 4 - Matters held over from 69th Session of the Executive Committee

Item 4.1 Vision for the EUFMD

The Secretary gave a presentation outlining a brief history of EUFMD activities since its inception and suggested different paths which the commission might consider for the future. In particular he suggested that given the SAT2 outbreaks in Libya, and type O outbreaks in 1999, EUFMD should focus some its future attention to the Mediterranean basin, and that the EUFMD-FAO/EC/OIE Tripartite mechanism might be appropriate for establishing a forum on surveillance and control in this region in addition to the Tripartites for the Southern Balkans and the Transcaucasus. He also suggested that these Tripartites might also consider the situation with other transboundary animal diseases such as bluetongue. These diseases are economically important in their own right and might also serve as markers for clinically-silent or inapparent outbreaks of FMD in small ruminants and vaccinated cattle given that many risk factors for introduction of these diseases are shared such as long-distance animal transport. Dr Füssel agreed that surveillance of other TADs might be used as a tool to trace or follow animal movements, for example appearance of BT as an indicator of possible cattle or small ruminant entry into region.

Dr Füssel said that the relationship between EU and North African countries will become increasingly close especially if a proposed Mediterranean Free Trade area is established, emphasising that already considerable efforts have been made in controlling the movement of livestock and animal products within this region. Dr Willeberg agreed with the idea of extending the remit of the Commission to include bluetongue (and other diseases which affect trade) but given the limited resources of EUFMD, said that the Commission needed to focus efforts on current risk areas.

Dr Čokrevski suggested that a first step should be to see how the TCP project within the Thrace region, which also deals with surveillance for bluetongue, develops before deciding on expansion. He advised that it would be dangerous to change the name of the Commission or to lose the focus on FMD given the historical achievements and recognition of the Commission and the political/trade importance of FMD. He also thought that the primary focus of EUFMD should be communicating the importance of FMD and otherwise assisting the veterinary services of member countries to ensure their preparedness before attention was diverted further afield.

The Chair outlined the need for a dual approach focussing on both the preparedness of member countries and assessment of the risk situation with attempts to reduce this risk at the periphery. She emphasised that protection of Europe now was very different from the historical situation given the volume and extent of movement of livestock, animal products and people. Whilst EUFMD might assist with capacity building in member countries, it would not be possible for the Commission to single-handedly improve their veterinary services but should focus principally on technical preparedness for FMD control.

Dr Füssel, referring to the intensive TAIEX programme which is proceeding towards alignment of the accession countries with EU standards in animal suggested that EUFMD could co-operate more closely with the EC. For example non-EU countries might be invited and funded by EUFMD to attend and

participate in simulation exercises run by EU member countries. He noted that since 1 November 2003, TAIEX responsibilities extended further east to include Ukraine, etc. With eventual enlargement of the EU to 27 countries, EUFMD should focus on the non-EC countries, particularly those at greatest risk. EU member countries are obliged under EU directives to run simulation exercises, etc. and EUFMD could fund the participation of member countries not within the enlarged community. It should be remembered that the details of where and when these exercises are run is at the discretion of the CVO in each country and he/she in turn could/should report this to EUFMD.

The Secretary agreed to take up this point with CVOs and the relevant EC offices, including TAIEX. Dr Belev stressed that although Europe is moving towards closer integration, disease threats such as Rabies and BT are ever-present. The EU, EUFMD and OIE should make more of an effort to combine their resources and co-ordinate their activities.

Dr Willeberg asked what the role of the RG was in this and if there were plans for its future, and also suggested that the RG Sessions provided an opportunity for pre- and post Session workshops and training. The Secretary indicated that he had proposed a "vision statement" for the RG at the Gerzensee meeting, and that this required discussion with the Executive. He would forward this to Dr Willeberg. He pointed out that the RG provided a mechanism whereby a core of expertise in FMD, not simply at experimental level but also in field investigation, could be retained in Europe. He welcomed the idea of training courses being run in conjunction with the open session of the RG in 2004 and would take this forward.

In conclusion, the meeting agreed with the proposal from the Chairperson that 1-2 members of the Executive Committee assist the Secretary in preparing a report summarising these discussions and proposing various options for the future direction of the Commission's activities, and the implications if any, for the Constitution, for discussion at the 70th Session of the Executive Committee.

Item 4.2 Financial Matters

The Secretary presented budgetary details of the Commission for 2003-2004 **(Appendix 12)**. A statement detailing the contributions of member countries was also presented and follow-up of non-paying members was discussed. The Secretary will follow up non-payment with defaulting members in the first quarter of next year. A correction was made to statement 4 to account for the fact that $1.1 million worth of vaccine had been committed but not spent, since none of the vaccine manufacturers could guarantee delivery by the required date. The Committee agreed that the budget for the Administrative Assistant, as approved by the 35th Session, was sufficient to support the re-grading to the original Grade (G6) of this post, as held by the previous assistant.

Item 5 Matters arising since the 69th Session

Item 5.1 Iceland – request for financial assistance from EUFMD Commission to support a simulation exercise

The issue of a request for financial support received by the Secretariat from Iceland was discussed. The Secretary informed the meeting that US$10,000 was agreed by the 35th Session for workshops in 2004 and US$15,000 for 2005. The Chairperson wished to congratulate Iceland on pursuing this exercise but said that she did not think EUFMD could lend financial assistance as the country was not at most risk for introduction of FMD. However, the Commission might lend assistance in another way, e.g. by providing expertise or personnel. The Secretary said that the issue of FMD in animals on unfenced, common grazing was important and what constitutes a "holding", contiguous premises or in-contact animals in such circumstances would have to be carefully considered. EUFMD might receive valuable feedback from the exercise in return for supporting the attendance and participation of an expert.

Item 5.2 Workshop(s) on FMD outbreak investigation and active surveillance

The Secretary proposed that the EUFMD workshop allocation might be used to allow a repetition of the workshop which is to take place in Athens between 8-12 December 2003 under the Thrace TCP project,

allowing Balkan countries such as Croatia, Albania, and others to participate. He hoped that DG-SANCO would assist in supporting some of the costs and received a favourable response from their representative. The Secretary clarified that the funding for this repeat workshop was separate from that which was being sought for the NRL contingency planning workshop in Cordoba. Regarding the Cordoba workshop, Dr Willeberg asked if invitations would be extended to the technical/scientific personnel from the NRLs of member countries or to the delegates of the Commission, as the issues which were to be covered in this workshop were on the borderline between research science and decision-making. After discussion, it was agreed that Secretary should supply a detailed programme when requesting nominations from the delegates of the member countries, stressing the importance that these persons represent the laboratory services, and that additional participants could attend provided space permits.

Item 6. Any other business

There were no other issues raised.

Item 7 - Closure of the Meeting

Dr. Schwabenbauer closed the meeting at 4.00 pm, and thanked all for attending and contributing to good atmosphere and discussions, and acknowledged the help of Dr Marabelli and his staff in providing the venue.

Appendix 1

Provisional Agenda for the 69th Session of the Executive Committee of the European Commission for the Control of Foot-and-Mouth Disease

Ohrid, The FormerYugoslav Republic of Macedonia
23-24 October 2003

Item 1. Adoption of the Agenda
Item 2. Progress on the recommendations of the 35th General Session

2.1 FMD Surveillance
Risk situation and priorities for EUFMD support for sample delivery to WRL/RRL
2.2 FMD control in Turkey

2.3 Regional Control of FMD in countries bordering Turkey
- Report on the short term programme in the Caucasus and follow-up
- Status of projects under development
  - Regional FMD control surveillance centre in Iran
  - Regional Control Programme- development of disease free zones in Turkey and border regions of 6 countries

2.4 Matters referred to the Research Group Session, 2003
2.5 Priorities for Research Group, 2003-2005

Item 3. Vision for EUFMD – 50th anniversary and the second 50 years

Item 4. Finance

Item 5. Matters arising
- 5.1 Member countries
- 5.2 Procedures for election of the Research Group
- 5.3 Session of the Research Group - 2004
- 5.4 Coordination of research on FMD in Europe
- 5.5 Media officer
- 5.6 Location of 70th Executive Committee Session

Item 6. Adoption of the draft report

Item 7. Closure of the Session

Appendix 2

Summary report from the WRL on FMD virus isolations during 2003 and the implications for risk assessment

D J Paton, N Ferris, N Knowles, L Turner, R Statham, P Barnett, D K J Mackay.
OIE/FAO World Reference Laboratory for FMD, Pirbright Laboratory, Institute for Animal Health, Ash Road, Woking, Surrey GU24 0HF, UK

Submissions to WRL during 2003

The WRL has received 311 samples for FMD virus isolation up to the end of September 2003 (Table 1), with submissions being particularly high from across Asia (Afghanistan, Bhutan, Iran, Pakistan and Turkey). FMD virus types O, A, SAT2 and Asia 1 were isolated from samples received during the year. As usual, types O and A were the most prevalent serotypes isolated.

Serotype O

Fig. 1 shows the relationships between recently isolated FMD type O viruses and various reference strains. In 2002 & 2003, the PanAsia strain continues to persist in some countries (e.g. Turkey, Iran and Lebanon) and has now been detected in Afghanistan. The newly identified Ind2001 strain (probably a derivative of PanAsia viruses of the late 1990's) previously identified in India, Iran, Bahrain, United Arab Emirates Oman, Saudi Arabia and the Palestinian Autonomous Territories, has now been found in Pakistan (2002 & 2003). Another lineage, more closely related to O1/Manisa and some Indian vaccine strains, has also been found in Pakistan in 2003; this virus was first detected in Pakistan in 1998 and appears to have changed little in the intervening years. Viruses belonging to a lineage distinct from both PanAsia and Ind2001 were found in Turkey in 2000 and 2002; these were related to viruses isolated in Iran in 1997.

In the Far East, viruses of the Cathay topotype continue to be isolated from the Philippines and Hong Kong, while in Vietnam both viruses belonging to the Cathay topotype and the ME-SA topotype (PanAsia strain) continue to co-circulate. In Nepal two lineages were found, one belonging to the PanAsia strain and the other related to an isolate from Bhutan in 2002 (these are more closely related to the Ind2001 strain than to the PanAsia strain). Two distinct lineages were present in Bhutan in 2002, one as just mentioned related to the Ind2001 strain and the other possibly part of the PanAsia strain.

Antigenic analyses to date of strains isolated in 2003 have not revealed the emergence of diversity likely to increase significantly the risk of failure of current type O vaccine strains to provide adequate coverage. There is some evidence that isolates of type O from Hong Kong show less antigenic similarity than previous isolates to O Manisa but this still remains an appropriate vaccine strain.

Serotype A

Fig. 2 shows the relationships between recently isolated FMD type A viruses and various reference strains. It is evident that, since 1999, at least 4 to 5 main genetic lineages have been present in Iran. This appears to contrast with surrounding countries where only one or two lineages have been detected (i.e. Turkey, 2; Iraq, 1; Pakistan, 1). However, a lesser number of samples have been submitted from these countries. Nothing is known about the situation with type A in Afghanistan since no samples containing this serotype have been received since 1975. Multiple lineages circulate in India; however, these appear to be distinct from those in Pakistan, Iran, Iraq and Turkey (data not shown). It is interesting that the Iran99 strain has been detected in Turkey for the first time since 1999 (S. Aktas and U. Parlak, personal communication, 2003). The single isolate received from Bhutan is related to Indian type A viruses from the mid-1990's which belonged to the group causing the type A incursion into the Balkans in 1996.

Based on antigenic analyses carried out at WRL and/or PANAFTOSA, the type A viruses from Argentina and Brazil in 2000 and 2001 showed only limited cross-reaction with A24 Cruzeiro. Type A viruses of Middle Eastern origin isolated at WRL in recent years (Turkey, Iran, Iraq, Syria) have shown a great diversity both genetically and antigenically. A Iran 96 appeared to be an antigenically appropriate vaccine strain for many viruses of Turkish, Iranian and Iraqi origin. Other viruses from Iran and Syria were more poorly matched to A Iran 96 and also often showed a poor match to the A22 Iraq vaccine strain. In some cases, better matches were obtained using the vaccine strains A Iran 87 and/or Saudi 23/86, and A Iran 87 also appeared appropriate for some Type A viruses from Syria and the Far East (Thailand).

SAT 2

Fig 3 shows the genetic relationship between a recent isolate from Libya and other SAT 2 viruses, showing the closest match to viruses from Cameroon in 2002, Saudi Arabia in 2000 and Eritrea in 1998. Antigenically, the strain was clearly distinct from the vaccine strains against which it was tested but not to such an extent as to cause immediate concern. A lack of available post-vaccinal antiserum prevented the WRL from conducting antigenic comparisons between the Libyan SAT 2 isolate and vaccine strains considered as more likely to confer protection based on genetic analysis.

Asia 1

The Asia 1 isolates received from Pakistan in 2003 were closely related to, but distinct from, those isolated from the same country in 2002. Both groups belong to the same genetic lineage as the viruses responsible for the incursion of Asia 1 into Greece in 2000 which can be traced back to the Indian subcontinent and the Middle East as far back as at least 1994. Although only very little antigenic analysis has been carried out there is no suggestion of major antigenic diversion from current vaccine strains.

Conclusions

Antigenic analyses have not revealed any major new variants requiring urgent action. The type A situation in the Middle East remains an ongoing concern because of the large

number of variants circulating and the poor coverage afforded by current vaccine strains against some of them. The type O strains recently isolated in Hong Kong require further examination and monitoring and, obviously, it is of concern that the SAT 2 serotype has been isolated from North Africa.

In order to improve the process of vaccine selection and risk assessment, more should be done to make use of already available information by increasing the co-operation and collaboration between different regional reference laboratories, vaccine manufacturers and the WRL. More resources are needed to carry out testing of available viruses and steps should be taken to improve the availability and consistency of post-vaccinal antisera. Cross-protection studies are required to validate *in vitro* testing methods and research is also needed to better define the epitopes critical for protection. In order to improve the coverage of samples submitted to the WRL, steps should be taken to promote exchanges between regional reference laboratories and to target sample collection efforts to regions where surveillance information is sparse (an analysis of the numbers of samples received from different regions is given in Table 2 for illustration). The Executive Committee of the EU FMD Commission is urged to consider actions that it can promote to improve the submission of viruses and the exchange of reagents.

Table 1: Summary of submissions received by the WRL January to September 2003

Country	No. of	FMD virus serotypes						SVD virus	NVD	
	samples	O	A	C	SAT 1	SAT 2	SAT 3	Asia 1	(a)	(b)
AFGHANISTAN	57	8	-	-	-	-	-	-	-	49
BHUTAN	21	2	1	-	-	-	-	-	-	18
BOTSWANA	20	-	-	-	-	-	-	-	-	20
BURUNDI	7	5	-	-	-	-	-	-	-	2
HONG KONG	7	3	-	-	-	-	-	-	-	4
IRAN	45	21	11	-	-	-	-	-	-	13
ISRAEL (PAT)	1	1	-	-	-	-	-	-	-	-
ITALY	45	-	-	-	-	-	-	-	45	-
LEBANON	4	4	-	-	-	-	-	-	-	-
LIBYA	10	-	-	-	-	2	-	-	-	8
NEPAL	6	5	-	-	-	-	-	-	-	1
PAKISTAN	44**	18	10	-	-	-	-	7	-	10
PHILIPPINES	23	9	-	-	-	-	-	-	-	14
TURKEY	10	4	3	-	-	-	-	-	-	3
UNITED ARAB EMIRATES	3	3	-	-	-	-	-	-	-	-
VIETNAM	8	8	-	-	-	-	-	-	-	-
TOTAL	**311****	**91**	**25**	**0**	**0**	**2**	**0**	**7**	**45**	**142**

*	Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 0NF
(a)	Swine vesicular disease virus
(b)	no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected
**	One sample from Pakistan contained a mixture of foot-and-mouth disease virus types O and A

60 out of 98 positive samples tested as original suspension (Jan-Jun) were typed by enzyme-linked immunosorbent assay (61%) and the remainder (39%) were typed following cell culture passage

Table 2.

Viruses submitted to WRL 2001-2003 by region

	2001		2002		2003		2001-3	
	Viruses	Countries	Viruses	Countries	Viruses	Countries	Viruses	Countries
South America	9	3	2	1	0	0	11	4
Europe	11*	4	0	0	0	0	11*	4
Middle East	117	11	58	8	44	4	219	15
Indian Subcontinent	6	2	45	2	51	4	102	4
South East Asia	27	5	36	4	17	2	80	6
China/Taiwan/HK/Korea/Japan	12	1	7	2	3	1	22	2
Africa North	0	0	0	0	2	1	2	1
Africa West	15	3	1	1	0	0	16	4
Africa Central	0	0	0	0	0	0	0	0
Africa East	2	1	12	2	0	0	14	2
Africa South	0	0	9	2	0	0	9	2

**Excluding UK*

Fig 1.

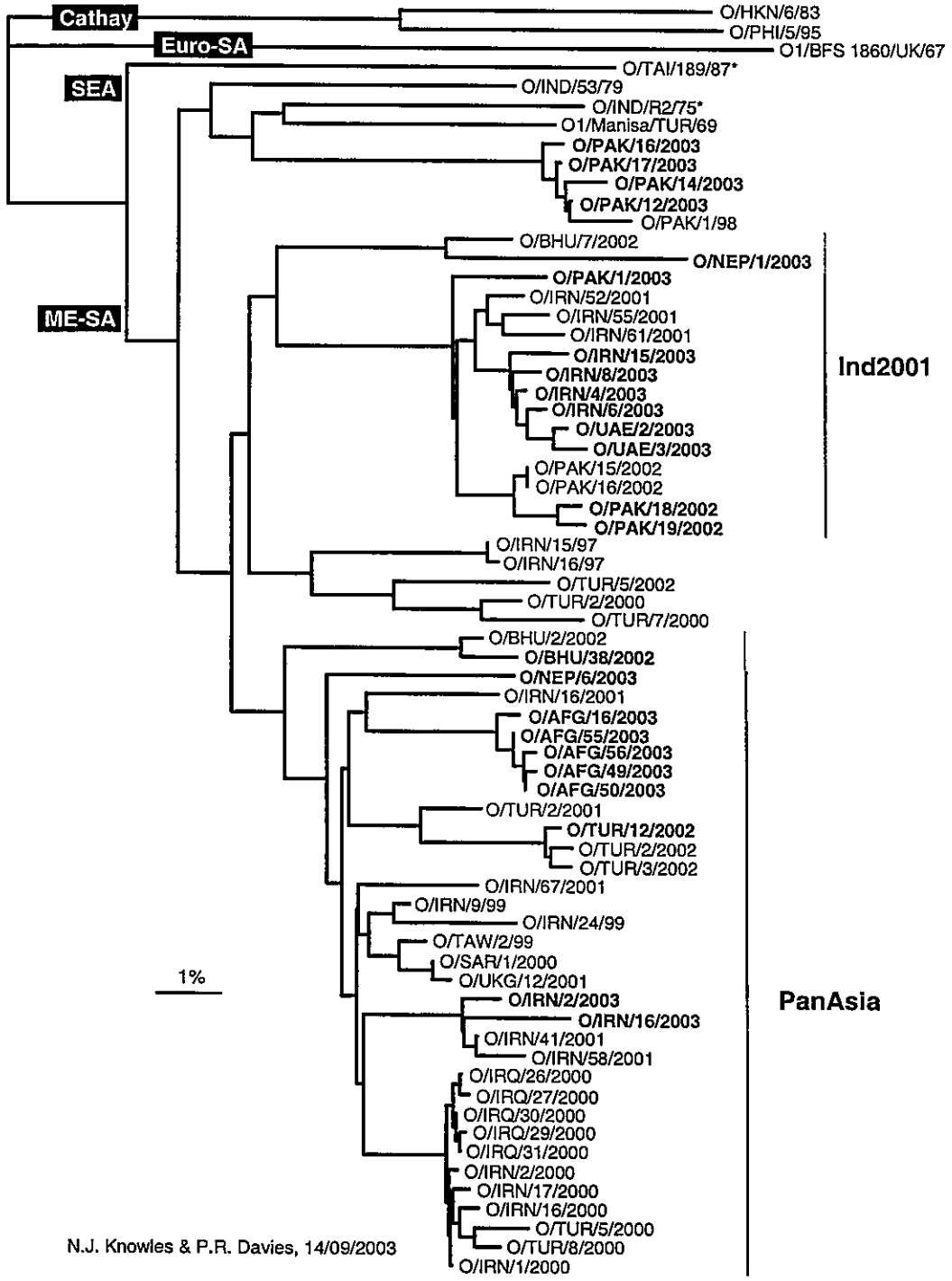


Fig. 1. Neighbor-joining tree based on a comparison of VP1 nt 1-639 showing the relationships between recently isolated FMD type O viruses and reference strains. Viruses received in 2003 are shown in bold. *, not WRLFMD reference numbers.

Fig 2.

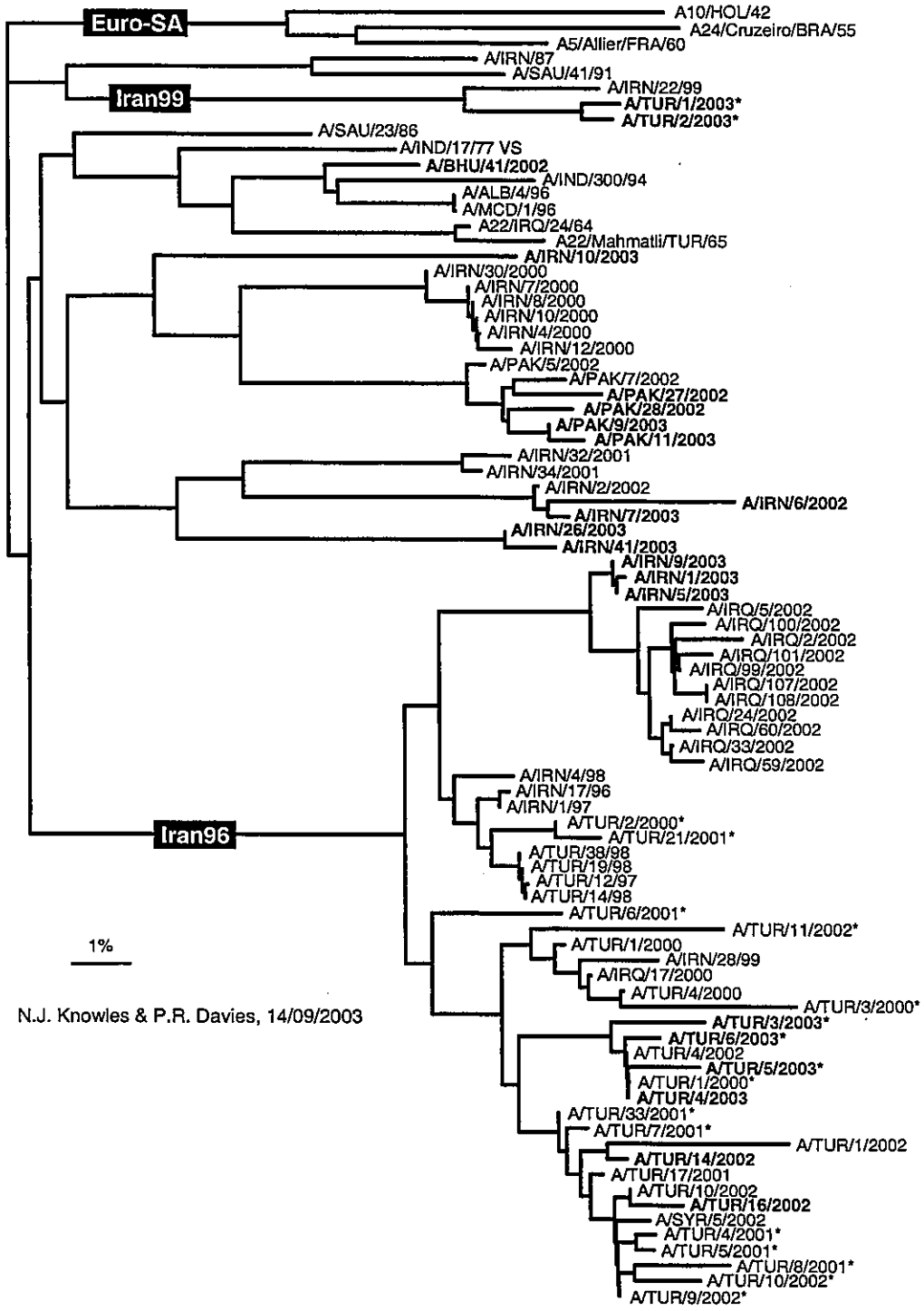
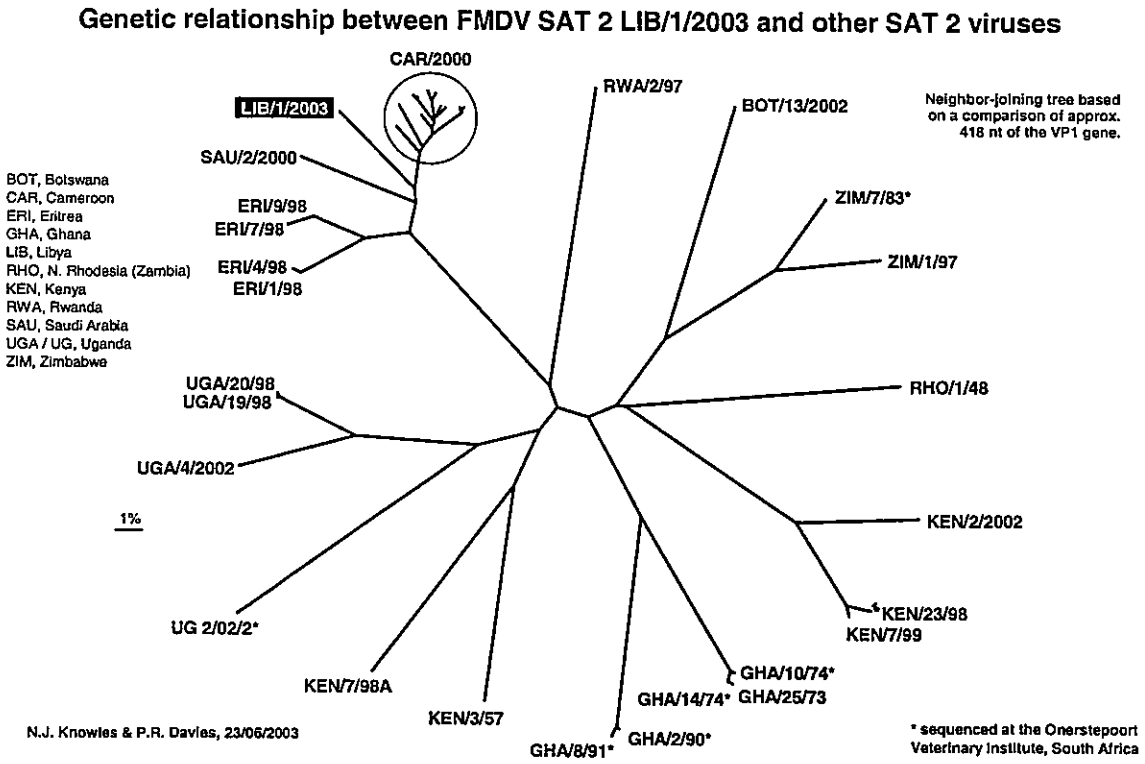


Fig. 2. Neighbor-joining tree based on a comparison of VP1 nt 469-639 showing the relationships between recently isolated FMD type A viruses and reference strains. Viruses received in 2003 are shown in bold. *, sequences provided by Sinan Aktas and Ünal Parlak, FMD Institute, Ankara, Turkey (note: these are not WRLFMD reference numbers).

Fig 3.


Genetic relationship between FMDV SAT 2 LIB/1/2003 and other SAT 2 viruses
CAR/2000
LIB/1/2003
SAU/2/2000
ERI/9/98
ERI/7/98
ERI/4/98
ERI/1/98
RWA/2/97
BOT/13/2002
ZIM/7/83*
ZIM/1/97
RHO/1/48
KEN/2/2002
KEN/23/98
KEN/7/99
GHA/10/74*
GHA/25/73
GHA/14/74*
GHA/2/90*
GHA/8/91*
KEN/3/57
KEN/7/98A
UG 2/02/2*
UGA/4/2002
UGA/20/98
UGA/19/98
1%
Neighbor-joining tree based on a comparison of approx. 418 nt of the VP1 gene.
BOT, Botswana
CAR, Cameroon
ERI, Eritrea
GHA, Ghana
LIB, Libya
RHO, N. Rhodesia (Zambia)
KEN, Kenya
RWA, Rwanda
SAU, Saudi Arabia
UGA / UG, Uganda
ZIM, Zimbabwe
N.J. Knowles & P.R. Davies, 23/06/2003
* sequenced at the Onderstepoort Veterinary Institute, South Africa

Appendix 3

Priorities for EUFMD support for sample delivery to the World Reference Laboratory (WRL)

Paper prepared by:
EUFMD Secretariat

Issue for Decision
- To agree the use of the Trust Fund to pay for small contracts to deliver samples to WRL, Pirbright
- To agree regions or countries for support in 2003-2004

Background
The relative richness of FMDV sequence and virus characterisation data presented in the reports of the WRL to the EUFMD Commission, or other meetings, tends to obscure the extent of the poverty of information from other regions. It will be important to address these information gaps to assist in risk assessment for Europe, including the selection of appropriate antigens. In addition the phylogenetic studies should assist in identification of transmission hot spots/reservoirs and routes of spread. The 35th General Session of the EUFMD Commission made four recommendations on this issue;

1. That the EUFMD should organise an ad hoc group in close collaboration with OIE to investigate the factors contributing to under-reporting and also practical means of improving global surveillance, prioritised according to the areas of highest perceived risk to member countries.
2. That EUFMD should support the timely supply of representative field samples of FMD virus to regional diagnostic laboratories and to the WRL from areas lacking the means to supply.
3. That the Commission should explore how risk assessment approaches could be used to target both information gathering by the EUFMD and surveillance efforts into areas of higher risk and/or higher epidemiological uncertainty in respect of FMD.
4. The OIE, FAO and EUFMD should strongly encourage the increased submission of field samples to regional diagnostic laboratories and to the World Reference Laboratory and also investigate incentives towards this end. The workload of the WRL should also be continuously monitored to ensure that the resources available are adequate for the tasks involved.

Consequently, a survey was conducted by the EUFMD Secretariat in order to elicit supportive information to assist priority setting of EUFMD efforts to improve the timely supply of virus characterisation/typing information from endemic areas considered to represent a risk to the European region. Subsequently, this report was discussed at the Session of the EUFMD research group in Gerzensee, 16-19 September 2003. The Group considered the state of information on which vaccine antigens are proposed for European vaccine banks, and developed recommendations on the priority regions for increased surveillance.

Recommendations of the EUFMD Research Group (Gerzensee, September 2003)

1. Priority locations from which assisted delivery of isolates to WRL is required

A ranking of priority locations was obtained by analysis of the answers provided by experts to a questionnaire on this subject. The order of priorities obtained was:
1. China
2. Indian subcontinent
3. African horn
4. Africa East

Few or no samples have been submitted to the FMD World Reference Laboratory from these regions in the last three years.

It is instructive to look at which FMD infected countries have the highest populations of susceptible species and are the main exporters of live animals and meat, since these are likely to represent a particular threat. China and India do indeed have some of the largest populations of susceptible species in the world. Countries in sub-Saharan Africa also merit more attention than they have previously been given. A number of projects are now underway to examine in detail the ecosystems in selected countries where FMD is endemic. These studies will seek to assemble information on the location and chronology of FMD outbreaks and on the host species and FMDV serotypes and subtypes involved. This will be analysed in relation to a variety of factors that may contribute to the persistence and spread of the FMD virus such as animal density, husbandry and trading practices.

Principal constraints to sample submission are related either to concerns over the use of the submitted samples and information derived there from or to the cost and effort required relative to the perceived benefit obtained. It was concluded that in the first instance efforts should be made to encourage the submission of more FMD sample materials from Africa, since obtaining information from this region is a relatively high priority and there is a reasonable prospect of improving submissions if resource is targeted here.

2. Recommendations regarding improving the estimation of FMD and antigenic type prevalences

1. The submission of more FMDV samples to the World Reference Laboratory should be encouraged to enable genetic and antigenic characterisation studies to be performed. Better liaison with Regional Reference Laboratories may encourage the supply of representative viruses from their collections to the World Reference Laboratory (see recommendation 1 above). Efforts to encourage and subsidise submissions from endemic countries should concentrate initially on targeting resources to countries in sub-Saharan Africa and the horn of Africa where it is likely that financial assistance could have the greatest benefit. The EUFMD Secretariat should co-ordinate such an approach.

2. New research to improve the knowledge of the ecosystems in which FMD is endemic has great potential for identifying the mechanisms by which the virus persists and spreads and thereby to develop risk assessments and new control strategies. The groups should be invited to update the EU FMD on progress in their research in the coming years. The EU FMD Secretariat and the FMD World Reference Laboratory should support these initiatives and help to co-ordinate the activities of different research groups. Discussions and agreement are needed on the extent to which surveillance data received from National Governments by organisations such as international reference laboratories can be made more widely accessible.

Funding and modality for support

The amount available for 2004 was set by the 35th General Session. A total of $20,000 was allocated for additional contracts, to be used according to the recommendation of the Executive Committee.
Letters of agreement could be used between FAO and the Laboratory or Institution concerned. Payment schedule could include an initial payment, to cover costs of sample collection and handling, and transportation to the WRL. Final payments would be conditional on receipt of usable samples and epidemiological reports. Payment for a veterinary scientist to visit the WRL may be considered to increase their involvement in the aims of the work. This should assist in developing longer term links and interest. Transportation difficulties would be considerable; the Research group is developing, with WRL, a Guide to Sample Transportation which should assist. It is expected that IATA approved sample containers may be required to be shipped to laboratories concerned.

Countries under consideration for support

Country	*Cattle in 2001 (1995)*	*Small ruminants in 2001 (1995)*
Chad	*5.9 (4.7)*	*7.6 (5.5)*
Eritrea	*2.2 (1.3)*	*3.2 (3)*
Ethiopia	*34.5 (29.8)*	*39.5 (38.5)*
Kenya	*12.5 (13.55)*	*15.5 (18.3)*
Nigeria	*19.8 (15.4)*	*44.8 (38.5)*
Somalia	*5.2 (5.2)*	*25.7 (26)*
Sudan	*38 (30.7)*	*84.6* (72.3)*

** 2000 figure; 2001 was given as 50.9 million, a surprising level of fall.*

Eritrea
In 2003, 10 outbreaks were recorded to the end of May; in 2002 and 2001 the figures were 1 and 2 respectively. Virus type information was not given. Through proximity to Ethiopia, and Sudan, virus typing may provide information on what types are circulating in the north-east part of the region, and which might transfer to the Arabian Peninsula and possibly Egypt.

Ethiopia
In 2002 and 2001 the country reported 33 and 75 outbreaks, respectively, to OIE, from widely dispersed locations. No typing information was given. The location of outbreaks included outbreaks in Provinces where incursion or transborder disease exchange of animals with Kenya, Somalia, Sudan and Eritrea might be expected. Therefore samples delivered from the country might provide some indirect information about virus types circulating in neighbouring countries. In addition the country has one of the largest cattle populations in Africa (34.5 million), increasing the potential for circulation and virus evolution within the country and may function as a regional reservoir/hot-spot.

Kenya
In 2002, 2001 and 2000, the country reported 48, 54 and 90 outbreaks to the OIE. Four types were reported to be circulating, A, O, SAT1 and SAT2, with wide geographical dispersion. An under-representation may be postulated in the reports, from Provinces in the east and north, bordering with Somalia or Ethiopia. This may reflect difficulties in surveillance in the pastoralist communities of the "Somali cattle ecosystem". The complex and varied agro-ecological zones, and the potential animal movement across the extensive landborders also suggest the country is at risk from FMD incursion and surveillance may therefore enable assist in detecting regionally significant virus type information. In addition, FMD is a problem for small holder milk producers and antigenic typing may assist in rational vaccine selection for this sector.

Sudan
The country last reported FMD in 1990 to the OIE. However the authorities in Khartoum are unlikely to have information on the situation in the non-Government held areas. Reports from NGOs working in animal health indicate FMD is a frequent and serious issue in pastoralist communities in the south and vaccination is little used because of logistic and costs implications. The picture presented suggests multiple types may be circulating. The country has a very significant cattle and small ruminant population on a worldwide basis (38 million and, perhaps, 80 million, respectively) and may be a regional reservoir of importance for virus circulation and evolution. It is not clear if vaccination policy in the north is informed by virus typing, and how adequate is the vaccination coverage in the north relation to the threat. Virus typing would assist in developing a more transparent and effective prevention policy.

Chad
FMD outbreaks appear widely dispersed and frequent. The country reports existing outbreaks and not numbers of new outbreaks, but it can be presumed that at least 43 outbreaks occurred (to 7/03) in 2003, 61 in 2002, and 30 in 2000. The number in 2001 was not reported. The virus type involved is

not reported. Given the size (5.9 million cattle) and nature of the animal population, and the geographical border with **Libya**, the country should be considered important for establishment of FMD typing.

Somalia

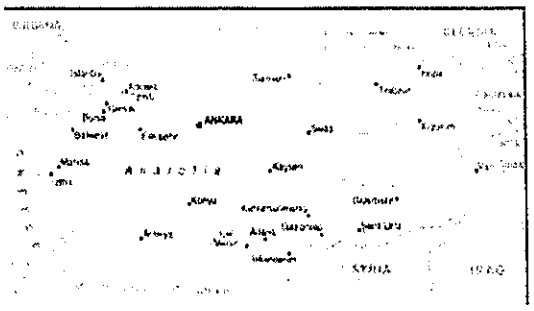
There were no reports of FMD to the OIE in 2000-2003, despite the size of cattle and small ruminant populations (5.2 million and 25 million, respectively) and high level of internal movement in pastoralist systems in the country. The geographical location and trade with the Arabian Peninsula is a cause for concern. Indirect evidence of circulating strains may come from surveillance in neighbouring countries.

FMD surveillance ands typing in **Bénin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Ghana and Togo** is supported under a recently started FAO TCP (**TCP/RAF/2916 (T)**). This project will establish surveillance co-ordinating centre, and expertise in virus typing, at the Bingerville laboratory (**Côte d'Ivoire**). Training will be conducted in South Africa (OVI) and Denmark (Lindholm).

FOOT AND MOUTH DISEASE SITUATION IN TURKEY

69th Session of the Executive Committee of EUFMD
Ohrid, FYR Macedonia, 23-24 October 2003
Sinan Aktaş

Geographical location of Turkey



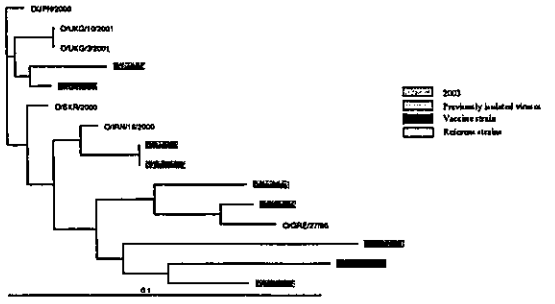
FMD situation

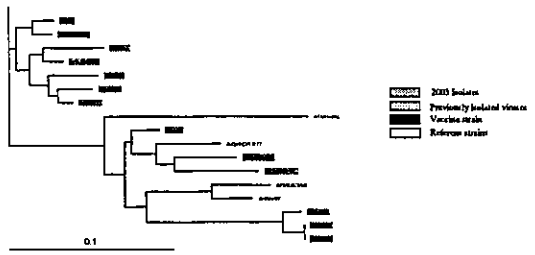
FMDV serotypes circulating in Turkey

- A (Iran 96 and Iran 99)
- O
- Asia 1 (Last outbreak in March 2002

No FMD outbreak has been reported in Thrace Region since June 2001

27 due to type O **11 due to type A**





FMD outbreaks in 2003

Month	O type	A type	Total
January	2	2	
February	3	1	4
March	5	2	7
April	3	3	
May	2		2
June	2	2	4
July	2	2	4
August	4	1	5
September	4	3	7
Total	27	11	38

Diagnosis of FMD

Diagnostic laboratory at the Sap Institute (molecular epidemiology laboratory)

- -All FMD suspected samples have been investigated by Sap Institute.
- -These samples have been tested by ELISA,
- -All negative samples have been inoculated to cell cultures for virus isolation and re tested by ELISA, and PCR also applied for some samples
- -Some samples isolated from different regions of Turkey have been tested by strain characterisation ELISA to determine the antigenic relationship between field isolates and vaccine strains.

Vaccine production at the Sap Institute in 2002

- Vaccine strain Amount of vaccine produced (cattle doses)
- O Manisa 69 9 400 000
- A Aydın 98 (Iran 96) 6 000 000
- Asia 1 74 9 200 000
- Total 24 600 000

Vaccine production at the Sap Institute in 2003

- Vaccine strain Amount of vaccine produced (cattle doses)
- O Manisa 69 5 000 000
- A Aydin 98 (Iran 96) 7 100 000
- Asia 1 74 6 500 000
- Total 18 600 000

FMD vaccine from EU

- 200 000 doses (Aftovax) trivalent FMD vaccines from 2002 are stocked at the Pendik Veterinary Control and Research Institute.
- 500.000 doses (Aftovaxpur) trivalent FMD vaccines are delivered to Pendik Veterinary Control and Research Institute.

FMD vaccine donated from EU used in Thrace

Province	Used vaccine name	
	Aftovaxpur	Aftovax
CANAKKALE	105000	
EDIRNE	84000	106000
ISTANBUL	60000	
KIRKLARELI	116000	10000
TEKIRDAG	136000	
Total	501000	116000

Disease control program

-Surveillance and monitoring
-Sero-surveillance
-Outbreaks investigation
-Strict measures and quarantine
-Animal movements control

Disease control program

Surveillance and monitoring

- **Active surveillance and monitoring programme for surveillance zone**
- **Outbreak investigation of FMDV type A for elimination of this type.**
- **Serological surveillance in Thrace and Anatolian regions in 2003**
- Training of the technical personnel on FMD
- More strict security and traffic controls of the trucks on the overland routes

Disease control program

Vaccination policy

- Mass vaccination policy is main element of control program
- Ring vaccination around the outbreaks

Disease control program

Vaccination policy

Large Ruminant

- **Application of routine mass vaccination twice a year using trivalent vaccine to at least 80% of all large ruminants in the country,**
- **Application of strategic vaccination using trivalent vaccine to large ruminants in the selected region at the Black Sea Region,**

Small Ruminant

- **Application of routine mass vaccination once a year using trivalent vaccine to at least 80% all ruminants in the Thrace and Marmara regions.**

Thrace and Marmara and other regions of Turkey

Vaccination figures for the spring vaccination campaign in the European side of Thrace region in 2003

Province	*Vaccination programme*		*Vaccinated*		*Percentage (%)*	
	Large Rum	*Small Rum*	*Large Rum*	*Small Rum*	*Large Rum*	*Small Rum*
CANAKKALE	7,525	61,000	8,157	50,785	108	83
EDIRNE	126,396	179,941	106,743	170,458	84	95
ISTANBUL	41,500	35,000	44,416	37,271	107	106
KIRKLARELI	62,610	127,700	67,309	126,635	108	99
TEKIRDAG	93,800	133,120	82,574	99,790	88	75
TOTAL	331,831	536,761	309,199	484,939	93	90

Vaccination figures for the spring vaccination campaign in the European + Anatolian side of Thrace region in 2003

Province	*Vaccination programme*		*Vaccinated*		*Percentage (%)*	
	Large Rum	*Small Rum*	*Large Rum*	*Small Rum*	*Large Rum*	*Small Rum*
CANAKKALE	80,705	389,000	61,918	203,536	77	52
EDIRNE	126,396	179,941	106,743	170,458	84	95
ISTANBUL	55,000	43,800	58,173	41,788	106	95
KIRKLARELI	62,610	127,700	67,309	126,635	108	99
TEKIRDAG	93,800	133,120	82,574	99,790	88	75
TOTAL	418,511	873,561	376,717	642,209	90	74

- Animal movements control
  - ***Efficient control of the animal movement*** within the country is also improved
  - ***Strict control measures are performed*** at the borders working with the coordination of the relevant authority. (Ministry of Agriculture and Rural Affairs, Ministry of Internal Affairs, Army, Custom etc.)
  - Some of the articles of the ***Law of the Animal Health and Control has been chanced*** in order to provide adequate penalties for illegal traders and carriers (Driver, Vehicle).
  - Establishing an ***identification and registration system*** for bovine animals in Turkey.

SEROSURVEY STUDIES IN TURKEY

1. ANATOLIAN SURVEY

Materials And Methods

1. Test Sera

•a total of 200 villages and 24 large ruminants from each village were selected and sera were collected at 30 days post vaccination (dpv),

•Sera were collected from three different ages group:

- 04-12 months; once vaccinated or without vaccinated animals
- 12-24 months; once or second times vaccinated animals
-- >24 months: more than two times vaccinated animals group

Results

- To evaluate the post-vaccination antibody levels,
- a total of 4765 sera from cattle were tested by the LPB ELISA at a single dilution of 1:100, which was accepted as the protective level.

FMD Serotypes	Positive	%	Negative	%
O	3701	78	1064	22
A	3390	71	1375	29
ASIA-1	3541	74	1224	26

Table 1: Cumulative results of the sera collected from the cattle in Anatolian part at 30 days postvaccination

	4765					
	0-1 (1603)		1-2 (1516)		> 2(1646)	
FMD Types	+	%	+	%	+	%
O	1095	68	1191	78	1415	86
A	996	62	1097	72	1297	79
Asia-1	1066	66	1144	75	1331	81

Table 2: LPB-ELISA results of the sera collected from cattle in Anatolian part, 30 days postvaccination; Distribution by ages (+)=positive, %= persentage of positivity

Discussion

- Protective antibody levels of sera collected at day 30 against types O, A and Asia-1 were 78%, 71% and 74% respectively.
- These results showed that the protection rates were quite sufficient during the first one month of the vaccination.
- Although the protection rates were acceptable, significant variations were observed between individual units.
- When the least protected units were removed (16 units), the protection rates were much better.

•The reason of this variaton:

•The animals in some units were vaccinated for the first time for this serosurveillance,

•Vaccination failures,

•Sampling errors

2. TURKISH THRACE SEROSURVEILLANCE

- *Materials And Methods*

1. *Test Sera*

1.a.

- a total of 100 villages and 24 large ruminants from each village were selected and sera were collected at 60 days post vaccination (dpv),
  - Sera were collected from in three different ages group like Anatolian survey.

1.b.

- *Same amount sera were used to test the antibody against NSP of FMD virus*

Aditionally for this;

- To evaluate the protective level of the vaccine in the field experimentally, 60 seronegative cattle were vaccinated and were bled sequentially at days 28 and 120 and were tested by LPB-ELISA.

Results

•To determine the post-vaccination antibody levels,

•a total of 4768 sera from cattle were tested by the LPB ELISA at a single dilution of 1:100.

	Positive	%	Negative	%
O	2452	51	2316	49
A	2595	54	2173	46
ASIA-1	2765	58	2003	42

Table 1: Cumulative results of the sera collected from the animals at 60 days postvaccination

	Large Ruminants (2400)				Small Ruminants (2368)			
FMD Serotypes	Positive	%	Negative	%	Positive	%	Negative	%
O	1389	58	1011	42	1063	45	1305	55
A	1493	62	905	38	1100	46	1268	54
ASIA-1	1577	66	823	34	1188	51	1180	49

Table 2: LPB-ELISA results of the sera collected from the animals at 60 days postvaccination: Distribution of results by animal species

	04-12*(1547)		12-24*(1609)		>24*(1605)	
	Positive	%	Positive	%	Positive	%
O	517	33	855	53	1076	67
A	571	36	906	56	1113	69
ASIA-1	563	36	986	61	1216	75

Table 3: Distribution by ages (*)=month (+)=positive, %= percentage of positivity

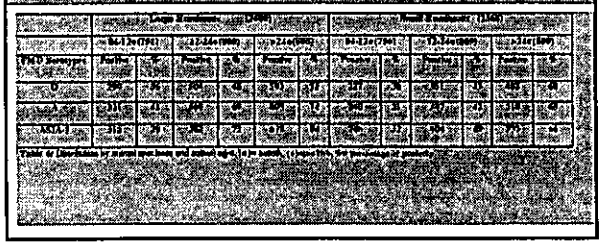


Table.5. LPBE results of experimentally vaccinated cattle

at 28 and 120 days

FMD TYPES	28 DAYS (ELISA)	%	120 DAYS (LPB ELISA)	%
O	57	95	6	10
A	58	97	10	17
ASIA-1	57	95	7	12

(n)= number of positive sera, %= percentage (positive sera)

Discussion

•A total of 4768 cattle and small ruminants were bled at day 60 of vaccination and 51%, 54% and 58% protection rate (as a cumulative) were determined for types O, A and Asia-1 respectively.

•Although the results of cattle were higher compared to those of sheep, better protection rates should have been obtained following 2 months post-vaccination.

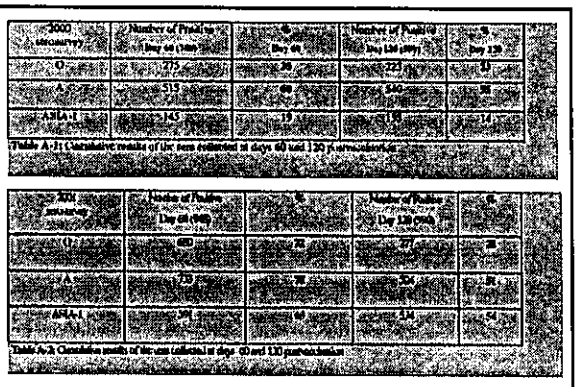
•These differences between the protection rates of cattle and sheep can be explained by the vaccination scheme (twice annually for cattle, once a year for sheep).

- Other significant differences were detected at distribution of ages.
- As it can be seen at tables 3 and 4,
  - protection rate of cattle >2 years of age was 73%, 78% and 84% for type O,A and Asia-1 respectively.
  - However protection rates of young animals and also small ruminants were much lower compared to those of regularly vaccinated older animals.

- These results can not be explained only by animal species and age differences.
- This decrease was also determined in experimentally vaccinated animals (table.5.).

•When individual units were examined, great variation was observed (table 6).

•As a conclusion, unexpectedly low immunity levels were observed at 60 days postvaccination.



2.b. 3 ABC ELISA RESULTS

Sera, which were collected for Thrace serosurvey, were examined to trace for antibody to FMD non-strucrural proteins by Bommeli Checkit 3 ABC ELISA kits.

	Number of sera tested	Positive	%
Cattle	2400	45	1.87
Small Rumin.	2368	17	0.7
Total	4768	62	1.30

•The percentage of NSP positive animals was 1.3 % in total, 1,87 % for cattle and 0,7 % for small ruminants.

•Majority of the positive animals were from Istanbul and Çanakkale provinces. Only few animals were found as positive in other provinces.

•The results were compareble with the results of previous NSP surveys conducted in this region, although number of sera were much higher in this survey (4768 in this survey, 1310 previous survey)

•All animals, which were detected as positive, were over two years old.

•No FMD outbreaks were detected for more than two years in this region.

•These results showed that the possibility of active virus circulation in Thrace has been very low.

Equipment received through EUFMD

- One automatic plate washer.
- Two orbital shakers.
- 4 automatic pippettes.

Reagents received through EUFMD

- LPB ELISA kits for detecting FMD antibodies against O, A and Asia 1 types (To test 4800 sera).
- Bommeli 3 ABC ELISA kit for 5850 sera of which 5215 has been used so far.
- The remaining kit will be used to test small ruminant sera from south eastern regions of Turkey.

FMD vaccine for Thrace Region

- **Double Oil Emulsion (W/O/W)**
- **Adjuvant : Montanide ISO 206 (Seppic)**
- **Strains : O_1Manisa**
  A_{96}Iran (A_{98}Ankara)
  Asia-1

Antigen Control :

- **ELISA**
- **Infective titre**
- **146 S**

After inactivation

- **Inactivation kinetics**
- **Sterility**
- **Safety in tissue culture**
- **146 S**

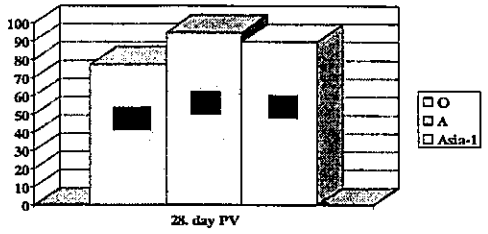
After concentration

- **Sterility**
- **146 S**
- **Safety in tissue culture**

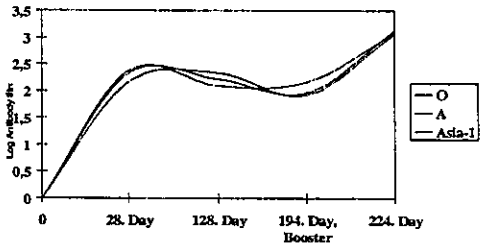
Potency tests:

This formulation was applied to animal (cattle and small ruminant) in Denizli, Ankara and Kastamonu.

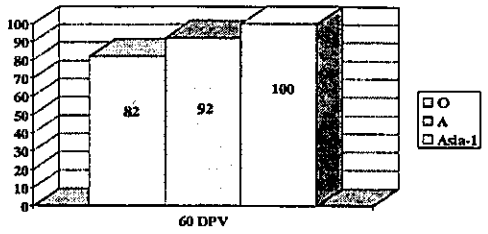
Denizli (Cattle), protection %



Denizli



Kastamonu-Cide (Cattle), protection %



Appendix 5

Follow up to the 35th General Session – FMD control in Turkey

Introduction

The issue of potency of vaccine produced by the SAP Institute has been discussed at most recent EUFMD Commission Sessions. At the 68th Session, in November 2002 in Vilnius, it was resolved that an additional external quality assurance test should be performed, and this was supported by DG-SANCO through the EUFMD/EC Trust Fund and conducted at the Tübingen laboratory in January 2003. The results indicated a lack of potency in the batch tested, against Asia-1 and type A components. The 35th General Session discussed the issue and made several conclusions and recommendations, given below. In order to follow up on Conclusion 5 and Recommendation 18, a Mission was carried out in June 2003 and the conclusions and recommendations report are attached. The full Mission report is available from the Secretariat. Issues to be raised at the Executive are:

1. The recommendation regarding further external quality assurance - for example the oil-adjuvanted vaccine intended for use in Thrace region in 2004.
2. Follow-up to the Mission recommendations.
3. The Commissioning of the Bornova Vaccine Control laboratory.

35th General Session: Conclusions

5. The General Session noted the recent results of the independent testing in Pirbright and Tübingen of FMD vaccine produced at the SAP Institute in which discrepant and disappointingly low potency results were obtained compared to those seen in Turkey. Further assistance with quality control and external testing of SAP vaccine would be appropriate.

6. The General Session noted with approval that the Bornova Vaccine Control laboratory had been partly commissioned and that it was intended that the unit would be fully functional for potency testing in 2004.

35th General Session: Recommendations

18. The Session recommends that the Commission should with urgency assist Turkey to achieve an agreed international standard for FMD vaccines produced in Turkey.

19. The Session recommends that the Commission should consider the further independent potency testing of FMD vaccine produced in Turkey. It also recommends that the conditions of shipment for vaccines being dispatched for external quality assurance testing should always be monitored in respect of temperature during transport by the inclusion of appropriate recording devices.

Conclusions and Recommendations of the Report of the Mission to examine potency test results for trivalent FMD vaccine produced at the SAP Institute, Turkey

Report of 20 June 2003, with modifications after the final discussions at the GDPC

Aldo Dekker, Member of the Research Group of the EUFMD, and Keith Sumption, Secretary of the European Commission for the control of Foot-and-Mouth disease

Dates of Mission: 17-20 June 2003

Aim of the mission:

The purpose of the mission was to identify factors contributing to the discrepancy between vaccine potency test results obtained in Turkey and those obtained following external evaluation in two European laboratories, and to identify a course of action to address areas of concern in the current system for potency testing in Turkey.

Conclusions

Based on the results shown by the SAP institute (36 out of 36 vaccinated animals protected) a minimal protection level of 90% in vaccinated animals (95% confidence) can be calculated. The fact that one batch of trivalent vaccine did not pass the potency test in Tübingen can be explained by the fact that this batch had a significant lower titre in the liquid phase blocking ELISA performed in Turkey compared to the other type A strains produced in 2002. Although the antibody response was significantly lower that the antibody response to the other batches, it still passed the cattle protection test at the SAP institute. Therefore there was in Turkey no reason to reject this batch. It is generally accepted that measuring serological responses is a better tool for final product testing than any protection test. As shown above the cattle protection test in Turkey, but also the potency test according to the European Pharmacopoeia has large confidence intervals. Any vaccine producer should correlate serological data to protection and should define vaccine release protocols on the basis of this correlation.

The type O and Asia-1 antigens in the trivalent batch send to Tübingen induced antibody titres in Turkey comparable to the ELISA titres induced by the other batches of the same serotype produced in 2002. Based on the serological response determined in Tübingen type Asia-1 was considered not to have passed the European Pharmacopoeia criteria (>3 PD_{50}). It can however be questioned if the relation between serological response and vaccine potency, determined in Tübingen with their own vaccines, is valid for the vaccine produced in Turkey. Based on the fact that all three Asia-1 vaccine batches produced in 2002 passed the protection test in Turkey with similar antibody titres in the liquid phase blocking ELISA, it can be assumed that they performed similarly. Combining the results of these protection tests shows that 9 out of 9 cattle were protected against challenge. This produces evidence that with 95% confidence at least 66% of the animals vaccinated with the same vaccines will be protected against challenge. This result is in contrast with the finding in Tübingen, the most likely explanation is the fact that the Asia-1 component induced lower antibody titres in trivalent vaccines compared to the ELISA titres obtained in monovalent vaccines.

Although the challenge results (for all batches for which data was available) are suggesting that the potency of the Turkish vaccines is adequate it is important to confirm this with additional potency tests in which dilutions of the vaccine are used (in conformity with the European Pharmacopoeia).
Given the limitations on animal numbers in experiments, the better way of determining the potency to induce an immune response of a vaccine is by testing the antibody response in vaccinated animals rather than protection tests with limited animals. But the correlation between this antibody response and protection has to be established, to perform better QC on final products. The proposal for revision of the European Pharmacopoeia monograph states that subsequent batches can be released on the basis of a serological test in cattle demonstrating that the antibody levels induced by a test batch are not significantly less than those induced by at least three batches shown to be potent by challenge in cattle. Although testing 3 batches in a potency test and subsequently producing vaccines that induce similar or higher antibody titres seems simple, it is better to use the knowledge about the biology in statistically sound calculations. Much has been published on the relation between protection and antibody response, statistical techniques to model these relations have been improved and computers make it easy to employ these statistical technique. It would be a waste of time, money and experimental animals not to use these statistical techniques.

Recommendations

1. Perform one or more PD_{50} experiments (according to the European Pharmacopoeia) for each serotype.
    a. The relation between PD_{50} and 146S antigen content has to be determined.
    b. In relation to the results obtained in Tübingen a PD_{50} experiment with type A has the highest priority.
2. Determine relation between antibody titre and protection for each of the antigens used for vaccination. Old data from challenged cattle as well as data from new experiments.
3. The results of studies mentioned in the previous two recommendations should be reviewed to select an appropriate method for final product testing.
4. Antibody responses of batches tested under experimental conditions and field conditions should be statistically compared to determine whether the observed differences in antibody response to the Asia-1 serotype can be confirmed. If this difference is confirmed one should examine what causes this difference.
5. Improve the biosecurity of the current production facilities and control laboratories.
6. The SAP Institute should be supported with establishing antigen concentration to enable formulation of vaccines with a higher antigen concentration.
7. Exchange of sera between Tübingen and Ankara to compare titres in their tests.

Appendix 6

Principal findings of the EUFMD mission to Eastern Anatolia in July 2003

Mission team: Dr. Keith Sumption (Secretary, EUFMD), Dónal Sammin (APO, EUFMD Secretariat) and Dr. Mustafa Tufan (GDPC)
Area visited: the provinces of Erzurum, Artvin, Van and Hakkari in Eastern Anatolia
Dates of mission: 20-30 July 2003

Terms of Reference (ToR)

The purpose of the Mission was to gather information that would assist in better defining the country needs relating to FMD surveillance and control in regions of the country where there is recognised to be a medium or high risk of trans-boundary entry or evidence for significant involvement as a source of virus for other regions, in the epidemiology of FMD in Turkey.

The Regional TCP in Thrace region provides an opportunity to respond to these needs, through capacity building of active surveillance of FMD and other exotic disease agents. The mission was conducted to better define activities that could be conducted in the TCP that would have national relevance and importance, particularly in outbreak investigation, and in active surveillance for FMD in the most significant areas for occurrence of the disease in eastern Anatolia. In addition the ToR were prepared to assist in gathering information relevant to development of multi-country regional initiatives for FMD surveillance and control to protect Turkey against entry of exotic FMDV types.

Principal Findings

Veterinary infrastructure: there is an extensive network of provincial and district offices but there are relatively few government veterinarians in the region and the organisational structure of veterinary services does not always allow prioritisation of disease control issues at local level or effective centralised co-ordination of active surveillance and tracing activities.
FMD vaccine coverage: in some districts $\leq$ 50% of cattle are vaccinated annually due to insufficient veterinary resources and farmer reluctance to pay costs.
Individual identification and registration of livestock: individual eartag identification of most adult cattle has been achieved but a large proportion of juvenile cattle ($\leq$ 1 year) are untagged. Computerised database is incomplete and is not centralised, implying difficulty in accessing information on animals registered in other provinces and delays in tracing.
Livestock markets: the absence of disease control measures at the point of entry to marketplaces and of biosecurity measures within marketplaces (to limit contacts between groups of animals) and the large numbers of susceptible animals being traded (untagged and therefore unvaccinated juvenile cattle) imply a very high risk of FMD transmission if an infected animal was to enter the marketplace.
FMD outbreak investigation: currently, investigations are usually limited to the primary disease outbreak and the forms used to record information during an investigation do not capture sufficient information to enable backwards and forward tracing of contacts.
Risk of introduction of FMD virus: according to official sources, there is no cross-border trade in livestock with either Georgia or Iran at present. Much of the border with Georgia is mountainous and inaccessible but there are dense networks of villages along both sides of the border between SE Anatolia and neighbouring Iran/Iraq.

Recommendations that should be addressed during or after the Regional TCP

- Revise the procedures and forms used during FMD outbreak investigation to enable tracing and practical application of these revised procedures/forms.
- Develop the use of GIS to prioritise allocation of resources in tracing and control measures. In addition, the diagnostic facility of VCRI, Erzurum could contribute to increased FMD surveillance, particularly sero-surveillance.
- Evaluate surveillance and control measures at point-of-entry to a marketplace on a pilot study basis; assess the risk of FMD transmission in the marketplace and the likely effects of different surveillance/control measures.

A further recommendation is that a risk assessment (to establish the risk of virus entry) should be prepared for each province in Eastern Anatolia.

Follow-up

A technical co-operation project (TCP/RER/2903) for the Thrace region involving Bulgaria, Greece and Turkey (September 2003-February 2005) has commenced and the workplan has been agreed at the National Programme Co-ordinator's meeting (Ankara, 9 October 2003). FMD-related activities will include: (1) a regional workshop on active surveillance in Greece (December 2003); (2) a study tour to IAH, Pirbright for two laboratory scientists from each country to receive training in FMD diagnostics (January 2004); (3) a regional workshop on GIS/spatial epidemiology in Bulgaria (May 2004); (4) a national workshop on GIS for Turkey (November 2004) and (5) analysis and evaluation of FMD serosurveillance data from Thrace.

To ensure the procedures developed in the TCP are relevant and applicable in the high risk zones for FMD, two pilot studies have been discussed with the GDPC and proposed to DG-SANCO for support: (1) **Application and evaluation of procedures in FMD outbreak investigation** and (2) **FMD surveillance measures in livestock markets.** These are summarised below.

Proposed actions - FMD surveillance and outbreak investigation procedures in Eastern Anatolia

(i) Application and evaluation of procedures in FMD outbreak investigation

Objective

Active investigation and tracing of FMD outbreaks: (a) to determine the origin and the full extent of each disease outbreak so as to limit further spread of FMD virus and (b) to satisfy international concerns regarding active surveillance, disease control and detection of potential "carrier" animals. A four-step process is envisaged:

1. Revision of procedures for FMD outbreak investigation under the Thrace TCP
   - Workshop on Active Surveillance under the TCP project for the Thrace region – (participants Bulgaria, Greece and Turkey – December 2003).
   - Discuss: (i) the reasons for epidemiological investigation of primary FMD outbreaks and (ii) the aging of FMD lesions, in relation to timing the introduction of FMD virus and efforts at backward and forward tracing.
   - Discuss current investigative procedures in the three countries and the forms used to record information, identifying gaps in current procedures with respect to tracing the source of an outbreak and high-risk contacts.

- Agree revised procedures for investigation of primary outbreaks which address the gaps and re-design forms to capture the required information (a questionnaire to elicit information on contacts and a means of recording relevant clinical observations).

2. Application of revised procedures in FMD outbreak investigation in Eastern Anatolia
   - This process would be facilitated by involvement of veterinary field staff (2) from countries such as Ireland or the UK with practical, hands-on experience of FMD outbreak investigation in 2001.
   - An investigative team would initially consist of one veterinarian from each of: (a) the local GDPC staff of the district/province in which a primary outbreak occurs, (b) GDPC HQ staff and (c) the ŞAP Institute (including at least one of the Turkish participants in the TCP workshop and an interpreter) and visiting veterinarians.
   - This team would visit the location of a recent (primary) disease outbreak and implement the revised procedures agreed at the TCP workshop.
   - The initial investigative team would then establish an incident room in the district or provincial GDPC offices (identifying available veterinary staff, vehicles and other necessary resources) and delegate follow-up investigations to local veterinary staff (prioritising the allocation of resources; co-ordinating repeat visits and ensuring that sanitary precautions are taken to avoid further dissemination of FMD virus by investigating teams).
   - Follow-up investigations and repeat visits would be carried out according to revised procedures, investigative teams liaising with the incident room (by cellular phone and/or by regular briefings with a role for digital photography in recording lesions).
   - NSP tests and penside diagnostics will be utilised alongside conventional diagnostic tools/methods to evaluate their usefulness in disease outbreak investigation. Rapid tests for FMD virus may be of potential use in small ruminants whereas a random-sample of livestock might be tested for NSP antibodies where there is uncertainty in identification of the index case at the location of primary outbreaks.

3. Evaluation of revised procedures
   - Discuss the application of revised procedures with particular emphasis on resource implications, including laboratory diagnostic capacity.
   - Identify further improvements in investigative procedures and recording forms.
   - Discuss prioritisation in investigation of contacts (including repeat visits) and sanitary precautions which should be taken by investigative teams.

4. A second tour of duty in Eastern Anatolia for an investigative team comprising international expertise and SAP Institute/GDPC HQ staff (repeating steps 2 and 3 whilst implementing the amended/improved investigative procedures and recording forms).

Follow-up
   - A report on the application and evaluation of investigative procedures will be prepared by the principal participants in this exercise.
   - The staff members of the SAP Institute and GDPC HQ involved in this exercise will continue to investigate FMD outbreaks in Eastern Anatolia (using revised investigative procedures and assisting local veterinary staff).
   - As a first step in the investigation of each new disease outbreak the local veterinary staff will receive training in revised investigative procedures from staff members of the SAP Institute/GDPC HQ.

- Formulation of guidelines for FMD outbreak investigation:
  - These will be a synthesis of the procedures developed and evaluated in the field.
  - They will include the criteria for use of diagnostic tests and animal sampling in conformation of infection and in tracing of infection.
  - Which conform to EC Directives but where required, but add detail to assist field teams to implement the Directive and also in areas not addressed specifically by the directive, such as use of rapid tests.

(ii) FMD surveillance measures in livestock markets (for example, Erzurum)

Objectives:

(1) Estimate the risk of FMD transmission in livestock markets and assess the potential impact of implementing different control measures within the marketplace.
(2) Identify farmer/trader issues and tailor control measures so as to ensure co-operation.
(3) Trace seropositive animals (detected through market serosurveillance) to their source so as to more efficiently target active surveillance measures.
(4) Assess the potential application of rapid penside tests.

- Establish an investigation team (consisting of district/provincial GDPC staff and staff from VCRI, Erzurum) who will conduct regular visits to the Erzurum livestock market. In the first instance, this team will receive some guidance on surveillance measures from international experts involved in disease outbreak investigations.
- Perform a census of animals traded in the marketplace on a monthly basis, categorising animals by species, age and vaccination status (previous vaccination in cattle indicated by the presence of an eartag). Also determine the origin and destination (village/district/province) of livestock traded through the market so as to establish the geographic extent of the market hinterland.
- Administer a questionnaire (by interview) to selected farmers/traders attempting to: (i) better understand patterns of livestock movement and trade and (ii) highlight issues of concern regarding disease control initiatives. Explain the purpose of market surveillance and controls in the context of regional disease control.
- Clinical examination (for evidence of oral lesions) either of all animals at the point of entry to the market or of a random sample of the animals within the marketplace.
- Application of rapid tests for FMD virus to suspect lesion material (and further sampling for laboratory-based tests plus quarantine if positive or inconclusive) and possible use in small ruminants to detect clinically-silent infection.
- Initial stratified serosurvey to identify high-risk animals (i.e. either highly susceptible to infection or likely to have been exposed). Collect serum from cattle and small ruminants of different ages (include vaccinated and non-vaccinated cattle).
- Targeted serosurvey based on results of the initial survey (to assess the susceptibility of vaccinates as against non-vaccinated cattle and to identify animals [cattle or small ruminants] that have been exposed to FMD virus and are potentially-infected).
- Test all sera for antibodies to structural proteins of type O and type A FMD virus (LPBE or SPCE) and test sera from vaccinates for NSP antibody.
- Based on seroprevalence and antibody titres, estimate: (i) the annual incidence of FMD virus infection and (ii) the level of susceptibility to different FMD-serotypes in different animal groups. Seasonal fluctuations in SP antibody titress would be expected in cattle related to twice-yearly vaccination campaigns. FMD outbreaks in the market hinterland might also be associated with fluctuations in antibody levels.

- Pinpoint the origin of non-vaccinated seropositive animals and NSP antibody positive vaccinates to assist in targeting of active surveillance.

Follow-up

- Reports will be prepared by the principal participants in this exercise on the results of implementing surveillance measures in a livestock market and on the surveyed opinions of farmers/traders with regard to FMD control measures.
- Guidelines will be prepared by the principal participants in this exercise on practical disease control measures that can be implemented in livestock markets.

Budget for surveillance activities in Eastern Anatolia

The forms and procedures agreed at the workshop organised under the Thrace TCP will be evaluated in field conditions over a 14-21 day period in Eastern Anatolia. After a review of this field application, forms and procedures will be modified, taking practical difficulties and experiences into account. A second tour of duty (14-21 days) will implement the modified protocol. During these tours of duty the international experts will also visit Erzurum market to advise on surveillance measures.

The budget for this iterative exercise assumes that:
(i) the professional expertise of veterinary field staff from Ireland or the UK (and any other international experts, e.g. members of the EUFMD Research Group) will be provided without charge to FAO/EUFMD; (ii) tours of duty will run for up to 21 days; (iii) local veterinary staff, vehicles and other resources required for field investigation will be freely provided by the Turkish authorities and (iv) equipment and consumables necessary for field investigations and laboratory back-up will be purchased under a letter of agreement between FAO and the SAP Institute. The LOA with the SAP Institute will cover travel and DSA costs of Turkish veterinary staff and has been budgeted to allow for continuing involvement of staff from the SAP Institute, etc. in investigation of further disease outbreaks occurring after the initial evaluation exercise.

EUFMD/FAO
Two tours of duty in eastern Anatolia by three international experts; each tour of duty for a maximum duration of 21 days; Travel costs and DSA. USD18000

GIS consultancy at FAO HQ (to collate Turkish spatial data and produce administration level 3 maps covering the entire country). USD6000

Letter of Agreement with SAP Institute
Sampling, field investigation and laboratory testing; costs for a team of three FMD epidemiology staff from the headquarters (ŞAP Institute/GDPC HQ/other) to partake in field investigations, evaluation of the procedures, and repeated follow-up investigations of herds/flocks, including laboratory tests. This includes the costs of internal flights and vehicle hire to allow emergency response and facilitate investigation of disease outbreaks at short notice. USD30000

Purchase of consumables and equipment for assembly of sampling kits required by investigative teams (including the purchase of a laptop PC with GIS software to allow co-ordination of investigative activities). USD10000

Purchase of diagnostic test-kits (NSP ELISA and rapid NSP tests) and non-kit consumables for laboratory diagnosis of FMD. This component will also cover the cost of packaging and transport of samples to IAH, Pirbright.

USD50000

LOA with IAH, Pirbright

Purchase of diagnostic test-kits (NSP ELISA kits) for comparative evaluation of these methods and other diagnostic tests (e.g. virus isolation and RT-PCR from nasopharyngeal swabs and probang samples) using material collected from field outbreaks of disease.

USD5000

Appendix 7

Regional control of FMD in countries bordering Turkey

Support for FMD Control in the Caucasus, 2003; follow up to the 35th General Session

Background

Deterioration of the FMD situation in the mid to late 1990's resulted in meetings between EUFMD/EC/OIE and the support for vaccination and sero-monitoring in 1999 and 2000. The aim of these activities was to create a buffer zone between the situation on each side of the border, to reduce potential entry of exotic virus types into Turkey, and also to separate the CIS countries from the epizootic situation in Iran and Turkey. Vaccination continues to be the main weapon in control in the three countries, using locally produced, lapinised vaccine in Georgia and Armenia, with some support from the EU Food Security programme.

In February 2002 it was decided at the Tripartite OIE/EC/EUFMD meeting to support buffer zone vaccination in spring 2003, with EC funding and implementation of the program by the EUFMD Commission. OIE accepted to play a co-ordinating role in the region. The recommendations of the Tripartite were discussed, and generally upheld, at the 67th Session. Details of the vaccination and surveillance programme were further discussed at a meeting for the countries concerned at the OIE in May 2002; and a Tripartite Meeting (OIE/EC/FAO) held with the countries concerned in November 2002 to discuss the long term strategy. The following 69th Session, and the General Session in 2003, recommended that future support should be reviewed after the short term programme was concluded in 2003. A Meeting is planned in Kiev on 1st November to discuss the situation and potential regional initiatives in surveillance and control of FMD and other exotic diseases.

The view of the Executive Committee on actions to be taken in this region are required.

The following might be considered:

1. A yearly Tripartite meeting (EUFMD/EC/OIE) on FMD and other exotic diseases in the border region of Caucasian countries /Turkey/Iran. The organisation and funding could be proposed to follow the model that supports the Tripartite Meeting on FMD and other exotic diseases in the southern Balkans, with EUFMD taking the lead role.
2. Support for strengthening surveillance capacity. This may include funding of training courses, and supply of essential diagnostic kits adequate for confirmation of infection and monitoring of vaccination performance. The continuation could be reviewed yearly, e.g. at Tripartite meetings.
3. A common policy on sero-surveillance might be developed, for the region and in common with Turkey, to enable comparison of campaigns and indirectly, of vaccines. For example the cut-off used at ARRIAH was 1:40 and it is unclear what proportion would be considered to have protective immunity levels.
4. A policy on vaccination, backed with regular supplies of quality assured vaccines. The objectives must be clear, and time-frame of the support. At one level a regular program of border zone vaccination reviewed annually, or a longer term program as proposed by the OIE in November 2002. In the longer term, a reserve of emergency vaccine would be an option for parts of this region if the capacity for early detection and rapid vaccine deployment becomes established.
5. Support at least in principle for large scale investment in regional FMD control. EUFMD has developed a project outline after discussion the EC representation in Ankara. In principle each of the countries could establish disease free zones on a 5 year

time-frame; the inputs required to achieve this would be established by formulation missions. However funding cannot be expected until after a decision is made in December 2004 on Turkey's accession to the EU, therefore FMD support to the end of 2005 must be planned.

Short term programme in the Caucasus, 2003

After receipt of pledge of financial support from DG-SANCO, EC,

1. One million doses of trivalent vaccine (Alum adjuvant, A/Arm/98, O/Georgia, Asia-1/Georgia, PD_{50} of at least 8, 10.5 and 6 respectively, in cattle) was purchased from ARRIAH, Vladimir, following usual FAO tender procedures. 300,000 doses were supplied each to Georgia, Armenia and Azerbaijan between 25 and 27th February 2003, and 100,000 doses maintained in reserve at ARRIAH. An independent inspection company provided a report to confirm delivery, conditions, breakages in supply of the vaccine to each site. The reserve of approximately 100,000 doses was transferred to Azerbaijan on 21st May after the consultants report had been received, to complete the vaccination in border zones (Nakichevan A.R).
2. FAO consultants (Prof. P. Tekerlikov and Dr L. Celeda) were recruited to oversee the implementation of vaccination, and planning of sero-monitoring, and to report on problems and opportunities in surveillance and control. Both completed their Missions by end of May 2002.
3. Support to sero-monitoring, surveillance for circulating virus, and FMD laboratory training was undertaken under a letter of agreement with ARRIAH. The initial report was not satisfactory (3 month report was received six weeks late - 8th July 2002) which hampered planning, but subsequently communication has improved; the 6 month report was received 20th August.

Summary of reports received from consultants and ARRIAH

1. The FMD control situation has apparently improved in Georgia and Armenia in the last two or three years following more regular implementation of twice yearly vaccination campaigns in cattle, at times all ruminant stock, using locally produced vaccine. Increasing herd immunity levels in the border regions have been noted in the sero-monitoring results of ARRIAH. However in Georgia vaccination is only in the southern half of the country.
2. However surveillance activity, laboratory capacity for confirmation of infection, and reporting remain very weak[1]. The EUFMD consultants reports indicated that diagnostic reagents for confirmation of FMDV were not available or usable (expiry date passed) in the national facilities in each country.
3. Reports of FMD in the three countries have not been received during 2003. This may in part be due to the vaccination occurring before the high risk period of spring movement. However given the diagnostic and reporting situation, the true presence and incidence is unclear.
4. ARRIAH informed EUFMD through their preliminary report in July 2003, that FMD cases (type O) occurred in 2002 in Georgia and Armenia, near to their common border and close to Turkey. ARRIAH had only been informed after the implementation of the EUFMD supported project. The report appears to confirm the informal reports received in September 2002 of disease resembling FMD from the UN agencies working in Armenia. ""Contaminated stream water"" (= a common watering point?) coming from

[1] [1]. This is major concern for several list A diseases, including rinderpest, and for this reason FAO has been formulating a TCP to strengthen surveillance

Turkey was suggested to the source for Armenia. The same district was involved as the Asia-1 outbreaks of 2000. However ARRIAH was not informed at the time by either country, confirmation occurred at the national laboratories, and OIE was not informed, and neither countries representative reported this at the meeting at the OIE in November 2002. From the geographic location and timing, it would seem likely the infection was imported.

5. Vaccination in spring 2003 with FAO/EC supplied vaccine was apparently effected quickly once conditions after the winter had improved sufficiently to permit movement of vehicles to the distribution points.
6. The deployment of vaccine in Armenia and Azerbaijan was as agreed with the three countries at the joint meetings in 2002, along the border with Turkey and Iran. In Georgia, despite instructions from the consultant, and agreement at previous IE/EC/FAO meetings, the national authority elected to vaccinate at other locations. In Georgia, 23 districts were involved, with 200,000 doses used along the border with Turkey, and about 100,000 doses were used in a substantial region along the internal border with Armenia and Azerbaijan, and close to the border with Dagestan (Russia).
7. The consultants were given clear instructions to prioritise the vaccine deployment to areas along the border to ensure timely coverage in areas with highest risk. The use of vaccine at internal regions reflects the information and concerns of the national authorities and may therefore represent a better indication of recent disease occurrence than official reports. However it is unclear if this internal vaccination has been effective in preventing spread towards the Turkish border, or towards Russia. Presuming the vaccinated areas represent high risk areas for initiation of outbreaks, then the deployment is logical and may have had a benefit to neighbouring states.
8. Despite the irregularities, **the consultants indicated that the programme achieved the aim of vaccination of cattle in the buffer zone along the border of each country with Turkey and Iran.** In Azerbaijan this required approximately 350,000 doses (345,751), in Georgia about 300,000, and Armenia approximately 150,000 doses (142,584). The apparent completion of vaccination in Georgia calls into question the figures provided for cattle populations in the provinces along the border with Turkey, although in mountainous terrain, the local risk assessment enabled more economic use than simply selection of districts.
9. In Armenia, the national authorities intended to reserve use the remaining 150,000 doses of vaccine for the autumn campaign.
10. Sero-monitoring by ARRIAH 2.5 to 3 months post-vaccination, indicated 61% antibody positives in Armenia, 58% in Georgia overall, and 55% in Azerbaijan. However the results have not yet been analysed by type of vaccine used (some areas surveyed had used locally produced vaccine), and the cut-off used was low (1:40) which may over-estimate herd protection. The immunity in primo-vaccinates was reported as very low; poor animal condition after a prolonged winter was one explanation.
11. Under the LOA, ARRIAH was to conduct sero-monitoring herd immunity at 2-3 months post-vaccination. Only the results for Azerbaijan, and for a proportion of samples for Armenia, had been received by the 6 month report date in August. This considerably reduces the value of the exercise. In retrospect, early sero-monitoring (30 days post-immunisation), together with rapid reporting of test results, might have enabled detection of problems before the main period of risk. These include evidence of absence of immunisation in some settlements, which could have received reserve vaccine if detected. Duration of immunity between vaccinations might also be assessed in a smaller study using sera collected before each round of vaccination.

12. In support of surveillance, ARRIAH provided ten CFT and six ELISA kits to each country, and provided some basic training in each national laboratory. However an EU-FSP veterinary epidemiology consultant to Armenia reported that additional training was required since staff were not confident in use of the taught techniques. In addition the agreed assessment of surveillance constraints and training needs had not been provided as required by the Letter of Agreement.

Follow-up to the General Session

1. A meeting was held with representatives of each country, the OIE, the EC and the EUFMD Commission (Dr Schwabenbauer, K.J Sumption) at the OIE in May 2003. The results of the General Session were presented and briefly discussed. The meeting agreed three items:
    a. To hold a meeting in Kiev on 30th September (later postponed to 1st November) to review the short term programme in 2003 and discuss medium and longer term plans. It was agreed that it would be valuable to involve Turkey and Iran in the discussions and that they could send representatives to the meeting.
    b. It was also agreed that EUFMD should try to organise short study tours for training of veterinary diagnosticians in laboratory confirmation of FMD, and in serology. The Secretary subsequently identified the costs of study tours for staff from Georgia and Armenia (to Bulgaria to study the surveillance system in the border regions) and from Azerbaijan to Turkey (because of the similar risk situation with Asia-1 virus and new FMDV type A strains). He wrote to the OIE to receive their approval of the training plan and awaits an official response.
    c. At the Secretary also proposed that an FAO TCP might also be appropriate to address the issue of technical capacity in disease surveillance and reporting. Shortly following this, a subsequent mission by FAO to the three countries resulted in agreement to formulate a TCP to strengthen surveillance. The Secretary assisted in the formulation and has been delegated responsibility to technically assist the countries in the proposal to FAO. The TCP has been circulated to each country and positive support received, and formulation should be completed in November 2003.

2. Regional programme

Following discussions with the EC and FAO representation in Ankara, the Secretary drafted an outline of a regional FMD control project for the 6 countries neighbouring to Turkey. A paper on this major initiative will be discussed under Agenda item 2.3.

3. Visit to Georgia border

An EUFMD Mission to Turkey in July 2003 visited the Turkey: Georgia border region (Artvin province). The agro-ecological regions along the border are sufficiently complex to require risk assessments in each province/district on points of transmission and animal entry. The Province visited appeared to have a low risk of animal entry/movement across the border points, and veterinarians interviewed considered risk from Georgia was very low. In the next Province, however, a higher risk was considered.

4. Sero-monitoring of national programs under the EU-FSP in Armenia.

The Secretary has kept in contact with the consultant in Armenia; the latter strongly supports the need for laboratory training for sero-surveillance.

Conclusions and recommendations of the 35th Session

Conclusions

1. The General Session received the interim report of the FAO/EU/OIE activities in the Trans Caucasus carried out in March 2003, noting the difficulties inherent in the current socio-economic and political situation.

2. The Session noted that three hundred thousand doses of trivalent O, A and Asia 1 vaccine had been delivered from the Vladimir Institute in Russia to the Republic of Azerbaijan for use in the border areas with Iran. It also noted that a sero-surveillance programme had been agreed with the testing to be carried out by ARRIAH, who will also provide training in ELISA for staff in Azerbaijan.

3. The Session noted that the capacity of the national veterinary laboratory requires considerable strengthening since there was no staff trained in FMD work and ELISA testing is uncommon.

4. The Session expressed concern about the production and use of lapinised FMD vaccine in the region.

Recommendations

22. The Session recommends that the concept of the buffer zone and its creation and maintenance along the border with Turkey and Iran in the Trans Caucasian countries should be reviewed by the EUFMD and EC after the conclusion of the short term actions in 2003, and should take into consideration information obtained about the FMD situation within the 3 countries of the region in order to formulate a medium term control strategy for the region.

23. The Session recommends that southern border area of the Trans Caucasus be effectively vaccinated with appropriate vaccine. In the current short term programme, should a shortage in vaccine occur, the priority should be given to higher risk parts of the border.

24. The Session recommends that the feasibility of alternative measures to mass vaccination such as ring vaccination and 3 week quarantine should be considered, where appropriate, to reduce the need and cost of routine mass vaccination.

25. The Session recommends that the Commission should support increase technical co-operation with the region for FMD control, including strengthening of regional co-operation with Turkey and the OIE Regional Reference Laboratory.

26. The Session strongly recommends that lapinised FMD vaccines should not be used and that all FMD vaccines should meet recognised international criteria of safety and potency as specified by, for example, the *OIE Manual of Standards for Diagnostic Tests and Vaccines* and the *European Pharmacopoeia.*

ARRIAH-July 2003

. Regions where blood sampling for serologic assay was carried out

Georgia

according to the Agreement

Armenia

Azerbaijan, 1 500 samples from 21

villages of 6 districts.

Map 1 ARRIAH report FMD (2002) ★ - **FMD type O outbreaks**

Map 2. FMD Vaccination Zones – map from ARRIAH

Appendix 8

Report on the Session of the EUFMD Research Group at Gerzensee, Berne, Switzerland, 16-19 September 2003

Kris De Clercq

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.

Item 1 – Briefing on relevant research projects and applications supporting FMD research in Europe

Dr De Clercq briefed the session on proposals developed and submitted for EC funding in the last year, that had the intention to strengthen the research effort and the network of FMD expertise in Europe and he identified gaps in the European programme.

Item 2 – Post-vaccinal surveillance (PVS)

I - Issues, experience, outlook

- 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 to the better definition of guidelines and for this reason Dr Gil was invited to the Session. The EUFMD secretariat should approach Uruguay authorities to have the possibility to work with them on their data.
- Dr Unal presented the preliminary findings of sero-surveillance in Anatolia and Thrace regions of Turkey following the 2003 spring vaccination campaigns. The unsatisfactory level of antibodies to structural proteins post vaccination should be investigated by further data analysis.
- Confidence in the surveillance design and sampling to detect previously infected animals is very important and quantitative methods to demonstrate confidence in the absence of infection could be very valuable. For this reason Dr Greiner was invited to the meeting.

II - PVS tests for differentiating infected and vaccinated animals (DIVA)

- Under the new EU Directive, tests would be used to classify herds and therefore confidence in the selection of test systems, and the criteria for positive results, will be very important. New methods for test interpretation that could add confidence to the detection of carrier or previously infected animals, should be evaluated. For this reason Dr. Collins explored at this meeting the potential use of likelihood ratios to express the probability of correct test result using data supplied by the IZS, Brescia. LRs can be expressed at a range of cut-off values, and therefore for each test result, provide an indication of the likelihood of this result occurring by chance. For this

reason, assurance in the likelihood of a correct diagnosis can assist in difficult decisions, such as slaughter of herds containing test positives.

- Dr Paton presented results on experiments at Pirbright involving contact challenge of vaccinated cattle demonstrated a variable degree of protection and using NSP-ELISAs and IgA-ELISA.
- Dr Dekker presented a comparison of 5 DIVA screening and confirmation tests on a selection of sera from cattle of known status.
- A thorough comparison of DIVA tests should be conducted on the most significant category of animals (vaccinated and contact challenged). Close co-operation between European laboratories and those in other parts of the world is required to achieve this in the shortest time. Evidence of a problem in detection of SAT infections after vaccination be reviewed before a recommendation on performance of animal studies be made. A synthesis (meta-analysis) of all the tests be performed so that overall performance, and lack of data, if any, may be realized and completed.

Item 3 - Priority setting for FMD vaccine bank (risk assessment/true prevalence)

- Dr Paton presented an overview of FMDV genotype information available to the WRL for 2002-2003. He made provisional recommendations on FMD virus strains to be included in FMDV antigen banks. Availability of reference sera for antigenic typing remains an important constraint. Disparity in continental and regional use of the WRL services is a long term problem leading to relative lack of information from some regions, particularly in Africa, South America and China. Exchange of information between regional reference laboratories is essential.
- A ranking of priority locations from which assisted delivery of isolates to WRL is required was obtained by analysis of the answers provided by experts to a questionnaire on this subject. Efforts to encourage and subsidise submissions from endemic countries should concentrate initially on targeting resources to countries in sub-Saharan Africa and the horn of Africa where it is likely that financial assistance could have the greatest benefit. The EUFMD Secretariat should co-ordinate such an approach.
- Dr Sumption presented the results of a survey of expert opinion on gaps in the global surveillance for circulating FMD virus, and some considerations on the use of livestock population and husbandry systems information to target surveillance. Predictive FMD maps might also assist the targeting of control efforts, including better identification of the need for vaccine antigens.

  Dr Thurmond presented in outline a new initiative to map FMD risk, using observed FMD data from three countries to develop models for FMD incidence and prevalence that might be adapted to address global information needs.

  Dr Gilbert presented an analysis of FMD types O, A and Asia-1 occurrence in time and space in Turkey. Different spatial-temporal trends for the three types were observed, which may permit prediction of future FMD. Discussions and agreement are needed on the extent to which surveillance data received from National Governments by organisations such as international reference laboratories can be made more widely accessible.

Item 4 - Towards virus detection standards – including RT-PCR

- Dr. Dónal Sammin presented a paper provided by Dr. Wolfgang Philipp and Dr. Heinz Schimmel of IRMM outlining the requirements of reference system and the steps required in its establishment.
- Dr. Anton van Loon gave a presentation on the work carried out by QCMD on the organisation of complex proficiency trials for PCR. It was concluded that these can clearly improve laboratory efficiency in diagnosis.
- Dr. Kris De Clercq presented the current status and deficiencies with regard to FMD virus detection and stressed the fact that reference material is lacking completely. A timetable was made for establishing a proficiency panel for virological testing.

Item 5 - Diagnostic standards – Reference sera

Dr. Paton reported on the results of Phase XVII and presented a plan for completion of Phase XVIII. These inter-laboratory exercises are an essential part in the collaboration and standardisation between European FMD laboratories.

Item 6 - Rapid diagnostics for FMD

- Prof. Sanchez-Vizcaino presented a multiplex RT-PCR for FMDV, SVDV and VSV detection.
- Dr. Merza of Svanova showed information on the development of pen-side tests for Rinderpest and FMDV. Validation of the tests is ongoing.

Pen-side tests could be used to:

1. support early detection of infection in suspect clinical cases (primary/index case).
2. confirm clinical diagnoses in secondary cases
3. rapidly indicate the necessity for additional sampling
4. confirm the clinical FMD diagnosis in the absence of a laboratory infrastructure

Pen-side tests should only be used by official veterinarian in the course of a disease investigation. The use of pen-side tests for FMD antigen detection should be encouraged to support the validation of the test with field data.

Item 7 - Contingency planning

- Dr. Dónal Sammin presented the results of a questionnaire survey on the sero-diagnostic capacity of FMD laboratories in EUFMD member countries. It was found that existing stocks would often be used up before they could be replaced.
- Dr. Bernd Haas presented a paper on a potential diagnostic test kit / reagent bank for Europe. New control strategies lead to an increased demand for laboratory investigations, especially serological screening. Contingency plans for serodiagnosis should prepare the veterinary services and laboratories for large scale serological screening, including identification of the likely lead-in time for such testing. Pre-vaccination blood testing, as carried out in the Netherlands in 2001, will require a shorter lead-in time. Diagnostic test kit / reagent banks are considered an essential part of contingency planning. A working group should be established involving EUFMD research group, WRL, SANCO to prepare a recommendation on the structure of a European test kit / reagent bank.
- Dr. François Moutou gave a talk on modelling of FMD epidemic size. Because of the difficulty to predict the size of outbreaks, modelling is of limited use for diagnostic contingency planning, which should rather try to shorten the lead-in period needed

until the full capacity of the country's diagnostic laboratory system can be employed for FMD serology.

- Based on experience and theoretical considerations, it is considered justifiable in emergency situations to carry out serological tests in regional laboratories, which would need to implement additional biosecurity measures. The minimum biosafety standards for FMD laboratories should be reviewed. An amendment should be included for laboratories performing only serology on samples from holdings without clinical signs of FMD.

Item 8 – Guidelines for air transportation of FMD samples

Dr. Vilmos Palfi gave an overview on the specific knowledge required for selection, collection, packaging and shipping of specimen to submit to the WRL for the diagnosis of vesicular diseases. A manual containing the principles of selection, collection, packaging and shipping of specimen to the WRL should be compiled.

Item 9 – Critical review of inactivation standards

- Dr Have presented a review of methods 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. If necessary, additional studies on inactivation by heat treatment or lowering pH should be carried out. These studies should make use of existing experimental data on D and Z-values or involve further experiments to fill any gaps.
- Dr Dekker reviewed the risk analysis process relating to meat and milk from vaccinated herds/animals which test negative by NSP tests.
- Funding for a both a risk analysis and for research on the effect of heat treatment should be made available, because heat treatment of pork or milk can render the products of less value and marketability, and at the moment it is not known at which level meat from vaccinated animals should be treated.

Item 10 - ACTION PLAN 2003-2005
See item 3.5

Item 11 – Any other business

- Election of Chairman of the Research Group.
- Future procedure for the election of Research Group members and Chairperson.
- Media Officer and information exchange.
- Location of future meetings.

Item 3.5 Priorities for the Research Group, 2003-2005

Progress reports on each of these items will be required at the Closed meeting of the Research group in 2004, and also where indicated below. Underlined person is designated as leader, alternate in italics.

- Assisted delivery for samples from third countries
  Action: EUFMD secretariat (report, each Executive Committee Session)
- Vaccine selection: invite comments from vaccine manufacturers and organise workshop (Jan-Feb 2004) for regional reference laboratories, etc.
  David Paton/ EUFMD secretariat
- Establish guidelines on post-vaccinal surveillance (by April 2004, ahead of OIE in May and Contingency Planning workshop, April 19-23rd 2004) (estimate likely within herd prevalence and definition of minimum requirements for NSP test performance). Interim steps: plan and costs (mid-October). First draft end of November/beginning December. Activities as required.
  François Moutou/Aldo Dekker/ Alf Füssel/Matthias Greiner/Andrés Gil
- Laboratory sero-diagnostic capacity – guidelines (by April 2004)
  EUFMD secretariat
- Phase XVIII WRL → report to RG session 2004 & plan for next phase
  c/o David Paton *(outline plan of John Anderson, WRL)*
- Comparative evaluation of candidate DIVA tests, 1) with sera from experimental infections, with Panaftosa 3ABC ELISA/EITB , deadline 3 months after receipt of kits, and 2) field use in regions with FMD outbreaks, deadline August 2004
  Franco de Simone (E Brocchi)/*Aldo Dekker*/Bernd Haas/ David Paton
  Nilay Unal /Hagai Yadin *(field use in vaccinates +/- clinical FMD; spring)*
- Proficiency panel for virus detection methods (VI, antigen ELISA, RT-PCR)
  → Step 1: limited number of NRLs → report to RG session 2004
  → review/plan Step 2 = distribution to all NRLs → report to RG session 2005
  c/o David Paton (& staff) + Aldo Dekker/Bernd Haas/Chris Griot/Kris deClerq
- Global FMD surveillance map/models
  Plan: by end of December, 2003
  EUFMD/WRL/FAO/OIE Working group
- Evaluate pen-side tests and develop guidelines
  Plan: by end of December, 2003
  Nilay Unal/ *Hagai Yadin*/EUFMD secretariat *(pilot study on disease outbreak investigation)*
- Working group on biosecurity (serodiagnostic, by Cordoba, April 19-23rd 2004) & high security laboratories (by 11/2004)
  Per Have/José Sanchez-Vizcaíno/Alf Füssel/etc.
- Working group on development of a diagnostic reagent bank)(by Cordoba, April 2004),
  Bernd Haas/Alf Füssel/Kris de Clercq etc.
- Guidelines for sample transport (by Cordoba, April 2004),
  Vilmos Palfi/David Paton/Chris Griot
- WORKSHOP on contingency planning for NRLs (April 2004; Cordoba, Spain) with local organisation by José Sanchez-Vizcaíno and attendance by all NRLs. Position papers must be prepared in advance by all working groups.

- Study to assess D-values and Z-values for heat treatment of milk and pork from FMD-infected animals.
  Per Have to draft outline of project (by Jan. 2004) with contribution from Hagai Yadin.
- In 2005 RG group to review vaccine antigens and gaps in sample submissions to reference laboratories (i.e. priority antigens and locations; two-year review).

Appendix 9

Extra-ordinary Meeting of the Executive Committee

1 December, 2003

Rome, Italy

Provisional Agenda

Item 1. Adoption of the Agenda
Item 2. Report and Recommendations of the 69th Session held in Ohrid
Item 3. Matters arising at the 69th Session

1. Role and Participation of Members of the Executive Committee
2. Vaccination against type A virus from Turkey (A/Iran/99 type) *Turkey*
3. Timetable for establishment of external quality assurance systems for FMD vaccine produced in Turkey *Turkey*
4. Plan for post-vaccination sero-surveillance in Thrace region of Turkey, 2004 *Turkey*

5. FMD control in the Caucasus – Report of the Tripartite Meeting, 1st November *Secretary*

Item 4. Matters held over from the 69th Session

1. Vision for the EUFMD
2. Financial matters *Secretary*

Item 5. Matters arising since the 69th Session

1. Iceland – request for financial assistance from EUFMD Commission to support a simulation exercise *Secretary*
2. Workshop(s) on FMD outbreak investigation and active surveillance *Secretariat*

Item 6. Any other business

Item 7. Closure of the Meeting

Appendix 10

CONTROL OF FMD VACCINES IN TURKEY

Dr Nihat Pakdil, Director-General, General Directorate of Protection & Control, Ankara, Turkey

Studies to conduct all quality control tests of the veterinary vaccines produced in Turkey and the vaccines imported to Turkey in Bornova Veterinary Control and Research Institute (BVCRI) are still in progress and not yet completed.

However, due to insufficient infrastructure of the Institute and some other problems, it has not been possible to control FMD, RP, PPR and BT vaccines in BVCRI.

The full controls of FMD vaccines will not be carried out in BVCRI until the second half of 2005. Until the BVCRI is ready to control FMD vaccines, the FMD vaccines will be controlled as follows:

1. FMD Institute will continue to control the sterility, safety and potency of the vaccines as usual.
2. BVCRI will start to conduct sterility tests from the beginning of 2004.
3. BVCRI will inspect the safety and potency tests to be conducted in the FMD Institute.
4. FMD Institute will prepare a dossier for each production batch and send it to BVCRI for inspection.
5. Controls of randomly selected vaccine batches will be conducted in the presence of BVCRI staff.
6. The full potency control of the vaccine to be used in Thrace for Spring 2004 vaccination campaign will be conducted with the participation of BVCRI staff in the FMD Institute.
7. Bornova will start controlling FMD vaccines from the second half of 2005.

Ten FMD virus samples isolated from 2003 outbreaks have been sent to Pirbright.

A study is underway to test more samples for the presence of NSP antibodies as a follow-up to the last serosurvey conducted in Thrace.

Item 3.2 Vaccination against type A virus from Turkey (A/Iran/99 type)

Currently FMD virus types O and A have been causing outbreaks in Turkey. A/Iran/96 was first detected in 1997 and has been the only type in Turkey until this year. A/Iran/96 has been included in the vaccine since A/22/Mahmatli did not provide protection against this type.

In 2003 besides A/Iran/96 a new strain (A/Iran/99) has been determined from some outbreaks. Since this virus was genetically very different from A/Iran/96 and A/22 viruses (>%18), we have decided to study these viruses in detail.

In this context two challenge experiments were carried out:

In the first study three cattle vaccinated with A/22/Mahmatli and one control animal were challenged with A/Iran/99 strain and all animals had lesions in their feet.

In the second study three cattle vaccinated with A/Iran/96 and one control animal were challenged with A/Iran/99 strain and only the control animal had lesions in the feet.

This study and a study conducted in Switzerland (Griot C. and Bruckner L., 2002) showed that although genetically very different A/Iran/96 provides protection against A/Iran/99 virus strain.

In addition to these studies field observations showed that A/Iran/99 virus strain has been causing a mild disease and there was enough protection in vaccinated animals.

Further studies are underway to prepare a vaccine strain from A/Iran/99 field isolates and prepare a trial batch of vaccine to conduct cross protection studies.

Ten field isolates from 2003 outbreaks, two of which were A/Iran/99, were sent to Pirbright Laboratory for analysis.

3.4 Plan for post-vaccination sero-surveillance in Thrace region of Turkey, 2004

A proposal for sero-monitoring will be prepared within the next few months for discussion.

Appendix 11

Report of the EUFMD/EC/OIE Tripartite group meeting concerning FMD control in the Caucasus
Kiev, Ukraine, 1 November 2003

Provisional Agenda

1. Opening Remarks
2. Adoption of the Agenda
3. FMD situation in the region - Country Statements
4. Recommendations from the Executive Committee of the EUFMD
    a. On the future organisation of Tripartite group Meetings
    b. On support for disease surveillance
5. Review of the 2003 short term FMD control programme
    a. Statements of country representatives
    b. Statement of ARRIAH
    c. Statement of the EUFMD Commission
6. Longer term programmes for FMD control in the region
    -follow up to the Tripartite group meeting in November 2002 at the OIE
7. Briefing on development of FAO Regional technical Cooperation project

Any other business

Item 1. Opening remarks
The President of the European commission for the Control of Foot-and-Mouth Disease, Mrs Dr. Karin Schwabenbauer, welcomed the participants to the meeting, and reviewed the recent discussions on the issue of support for FMD control in the region that occurred at the 69th Session of the EUFMD Executive Committee. She emphasised how important it is to have an open discussion and to collect the reaction of the countries of the region who are most involved in FMD control. She thanked Dr Verbytskyy, CVO of Ukraine, for making the practical arrangements to hold the meeting and Dr Belev, President of the OIE Regional Commission for Europe, for facilitating the communications between the parties involved.

Item 2. The Agenda proposed by the EUFMD Secretariat was circulated and approved. (attached).

Item 3. FMD situation in the region –Country Statements
Dr Safarov presented the situation in Azerbaijan, and also gave the apologies of the Republic of Georgia, who were unable to travel because of the elections. He indicated that FMD had not occurred since 2000 in Azerbaijan. He expressed the appreciation of his Government to the EUFMD Commission for the support given in 2003 to create the buffer zone. He reviewed the deployment of vaccine and the findings of the Dr Celeda (EUFMD) and Dr Dudnikov (ARRIAH). The initial supply of vaccine was too limited to achieve vaccination across the entire border region. In response to the consultants report, EUFMD had requested ARRIAH to deliver the 100,000 doses held in reserve and this enabled completion of the buffer zone campaign. He emphasised the problems that remain and that vaccination could not be the only measure applied. Assistance to veterinary services to monitor the situation was also important.

He conveyed the gratitude of the Government of Georgia for the EUFMD support in 2003. The Government was unable to buy an adequate amount of vaccine and therefore the additional supply from the EUFMD Commission had been very helpful. Since 2000 step-by-step improvement of the animal health situation has been made.

Dr Hovsep Klojan presented the situation in Armenia. In 2003 there had been no occurrence of FMD. There is a special programme against FMD, in part supported by the EU Food Security programme. He emphasised that problems remained, and that there is a need to develop a system to monitor vaccination efficacy in the field. He considered that sheep need to be vaccinated.

In discussion, the issue of the lack of reporting to OIE, or other bodies of the occurrence of FMD in 2002 was raised. The EUFMD Commission had been made aware only after ARRIAH had raised the question with the national authorities in 2003 under activities supported by the Letter of Agreement with FAO. The Secretary, EUFMD Commission, emphasised that the lack of reporting, and information on the circumstances, and the typing of virus from these outbreaks does not assist in the planning of vaccination campaigns in 2003.

The representative of the EC indicated that the contact with the countries through the Tripartite group, and through the supported programmes in 1999, 2000 and 2003 had been valuable in itself to risk assessment since information emerged that is different from officially reported information. However, open reporting is essential and this issue must be addressed. He raised the issue of the gaps in the buffer zone in territories controlled by Armenia.

Dr Zakharov indicated that ARRIAH had been collecting information since 1990 and he was of the opinion that the overall control programme in place had lead to improvement in the situation in the last 2 years. However, ARRIAH was not satisfied with the lack of reporting of the FMD cases in 2002.

In summary there was agreement among the international organisations that:

1. Support for FMD control is difficult to justify, and appropriate actions cannot be determined, when full information on FMD occurrence is withheld from the OIE.
2. The issue of typing of virus isolates by reference laboratories should be addressed, with effort made by the countries concerned, and where required support from the international bodies, to ensure timely supply of virus isolates to reference laboratories.

Item 4. Recommendations from the Executive Committee of the EUFMD

The Secretary, EUFMD Commission, summarised the discussions at the 69th Executive Committee, and relayed the recommendations of that Session concerning future support for FMD control in the region. The proposal of the EUFMD Commission was supported that a regular meeting be held, at least once per year, along the model of the Tripartite Group meeting for FMD control in the southern Balkans. This meeting would be of a technical nature and would review the FMD risk situation in the region, and to a lesser extent of other major animal disease risk, and make recommendations on control actions and support required in the following year. He proposed that two persons be supported to attend such a meeting from each of the three countries of the Caucasus, and that Turkey and Iran should also be invited to participate. It was also agreed that a representative of

ARRIAH should be invited to attend, and the EUFMD Commission was requested to support the costs of their attendance.
Professor Belev on behalf of the OIE proposed to take forward to the first meeting of the OIE Administrative Commission in 2004 the suggestion that a second meeting, concerning Government support to veterinary services in the region, be organised by the OIE.

The following proposals were supported, that

1. On behalf of international organisations (FAO, OIE and EC) and the countries concerned, the EUFMD Commission organise a regular meeting on FMD control in the Caucasus countries, to be held at least once each year.
2. The EUFMD Commission support the provision of diagnostic kits to each country, to enable confirmation of FMD infection and the evaluation of vaccination campaigns through sero-monitoring.
3. That the effectiveness of this support would be reviewed on an annual basis, at the proposed Tripartite group meeting.

Item 5. Review of the 2003 short term FMD control programme

Discussion on this item had already occurred during the opening presentations by the country representatives.
Dr Zakharov gave a presentation of interim results of the sero-monitoring conducted under the Letter of Agreement (LOA) with FAO, funded by EC. Full results would be provided in the final report to FAO.
The level of protective immunity at herd level varied widely in Armenia, with complete absence of in some parts and 80-90% immunity in other regions. Overall about 25% of samples were positive on the 3ABC test in Armenia. In Georgia, sero-positivity to NSP antigens was higher, with 50 to 70% positives in some areas. In the neighbouring area of Russia, 1,000 samples from vaccinated animals had been tested with the Bommeli 3ABC test with no positive results. Further animals multiply vaccinated in the Vladimir region did not give rise to positive results, and therefore the cause of the high sero-positivity in Georgia was not the result of the use of ARRIAH vaccine or the test used. Past or ongoing virus circulation are possibilities, as is the use of non-purified (lapinised) vaccine produced in the region.

After discussion, it was **agreed that**

1. The results need to be discussed with each of the countries concerned, as well as with the EUFMD Commission, in advance of the proposed March meeting of the Tripartite group. The very high percentage of NSP positive animals in some areas was a highly worrying finding which may indicate ongoing virus circulation.
2. As a far as possible, the contribution of the locally produced lapinised vaccine to herd immunity, and to induction of antibodies to NSP tests, should be addressed through comparison of results for animals immunised using the two sources of vaccine. Young animals with limited vaccination history should be most informative.
3. Given the importance of the results to the design of future monitoring programmes, ARRIAH were encouraged to discuss results with the EUFMD Commission in advance of the reporting deadlines to assist in the planning of appropriate follow up actions.
4. Given the issue of gaps in the buffer zone in the region on the border with Iran (Nagorny-Karabkh), a closer working relationship of Iran with the Tripartite Group

should assist the risk of virus entry into this region to be assessed, and possibly prevented. The supply to Armenia of an amount of vaccine twice that required by the spring 2003 campaign had not resulted in supply of vaccine to this region.

Items 6 and 7.
It was proposed these are deferred to the March meeting of the Tripartite.[1]

Date of next meeting
It was agreed that EUFMD Commission should organise the 2004 Tripartite meeting, in March, and circulate the proposed date[2] and agenda in good time.

Closing remarks
Dr Schwabenbauer proposed a vote of thanks to Dr Verbytskyy for the hospitality and for assistance with the organisation of the meeting, and expressed her wish that the many positive aspects of the meeting, such as the open and frank nature of the discussion, would be maintained in the future. Dr Rozstalny was thanked for acting as interpreter for the meeting.

List of Participants

EUFMD Commission:
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Dr. Keith Sumption, Secretary, EUFMD Commission

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Prof. Dr Nikola Belev, President of the OIE Regional Commission for Europe

European Commission, Brussels
Dr Alf-Eckbert Füssel, European Commission, DG-SANCO, Brussels

Republic of Azerbaijan
Prof. Dr Ramiz Safarov, Chief, Veterinary Department, Baku, Azerbaijan

Republic of Armenia:
Dr Hovsep Klojan, Deputy Minister of Agriculture, Armenia

Russian Federation:

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[1] For information;
Item 6. Georgia, Armenia and Azerbaijan have been consulted by FAO on the development of a 20-40 million € project which has the aim of development of disease free zones in each of the countries neighbouring to Turkey. The EC has been requested to indicate interest in funding the project; full planning will only begin if such indication is forthcoming. The project is not likely to be dependant on a timetable for Turkey's accession to the EU, and therefore the project is unlikely to start before 2006.
Item 7. The animal health section, FAO, has formulated a regional TCP for strengthening of disease surveillance through establishment of veterinary epidemiology units and improved diagnosis (principally training, and supply of biologicals and equipment for laboratories in each country). Since TCP are funded by FAO, the proposal must still pass internal procedures for selection of projects; a start date in the first half of 2004 is anticipated.
[2] The date and venue proposed by FAO is Monday, 15 March 2004, at the FAO Subregional Office for Central and Eastern Europe, Budapest, Hungary.

Dr. Ivan Rojdestvensky, Veterinary Department, Ministry of Agriculture and Food, Moscow
Prof. Valery Zakharov, ARRIAH, Vladimir, Russia

Republic of Turkey:
Dr. Nihat Pakdil, General Director of Protection and Control, Turkey *(member of the Executive Committee of EUFMD)*

Observers:
Dr. Peter Verbytskyy, CVO, Ukraine
Dr Andry Rozstalnyy, Ukraine

STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 25 September 2003

	US$	US$
Balance as at 1 January 2003		214,339
Interest received	1,289	
Contribution from member countries (As per statement 2)	168,274	169,563
Expenditure		
Commission Secretary	120,249	
Consultant	12,152	
Admin. Support Personnel	52,018	
Contracts	35,000	
Duty Travel	19,955	
General Operating Expenses	17,938	
Expendable Equipment	89	
Non-Expendable Equipment	0	
Total Expenditure		-257,401
Balance as at 25 September 2003		126,501

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 25 September 2003
(expressed in US$)

Member Governments	Outstanding 31/12/2002	Contribution due for 2003	Received up to 25/09/2003	Outstanding 25/09/2003
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	0.00	2,600.00
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	0.00	7,800.00
HUNGARY	0.00	7,800.00	7,800.00	0.00
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	0.00	39,223.19
LITHUANIA	0.00	2,600.00	0.00	2,600.00
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	0.00	13,000.00
NORWAY	7,800.00	7,800.00	7,800.00	7,800.00
POLAND	0.00	13,000.00	0.00	13,000.00
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	0.00	2,600.00
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	168,274.10	302,952.74

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 28 November 2003
(expressed in US$)

Member Governments	Outstanding 31/12/2002	Contribution due for 2003	Received up to 28/11/2003	Outstanding 28/11/2003
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	7,800.00	0.00
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	0.00	39,223.19
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	0.00	13,000.00
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	0.00	2,600.00
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	194,263.31	276,963.53

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 25 September 2003

	US$	US$
Balance as at 1 January 2003		40,356
Interest received		301
Expenditure		
Consultancy	0	
Duty travel	0	
Expendable Procurement	0	
Support Costs	0	
Total expenditure		0
Balance as at 25 September 2003		40,657

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 25 September 2003

	US$	US$
Balance as at 1 January 2003		207,257
Interest received	4,948	
Contribution received	759,348	
		764,296
Expenditure		
Consultancy	50,042	
Duty Travel	29,131	
Contracts	51,572	
General Operating Expenses	58	
Expendable Equipment	1,503,255	
Non-Expendable Equipment	-	
Support Costs 6% (on all items except expendable equipment)	2,268	
Less: Total Expenditure		1,636,326
Deficit as at 25 September 2003		-664,773

Appendix 13

LIST OF PARTICIPANTS

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Ohrid, Former Yugoslav Republic of Macedonia

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Extraordinary Follow-up Meeting
Rome, 1 December 2003

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