Appendix 8

Session of the Research Group of the Standing Technical Committee of the
European Commission for the Control of Foot-and-Mouth Disease
Borovets, Bulgaria, 5-8 September 2000. 1

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1 Manuscript based on the Report of the meeting made by all members and the secretariat.
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Item 1 General Information

A brief description was given of the activities of The Animal Production and Health Section of the
Joint FAO/IAEA Programme of Nuclear Techniques in Agriculture (Vienna), which promotes research in
developing countries. The main mechanism is through FAO/IAEA Coordinated Research Projects
(CRPs), Research Contract Holder (RCH) and Research Agreement Holders (RAH).

Item 2 Epidemiology/pathogenicity/immunology/genetics

From the 9 papers presented it was concluded and recommended that:
1. The pandemic strain of FMDV serotype O is a major threat to Europe.
2. Disease awareness can be sub-optimal in a country, which has not experienced FMD for a long period of time.
3. The variable pathogenicity of the Japanese 2000 type O FMD isolate has been discussed.
4. The minimal aerosol infective doses of FMDV for pigs (which is relatively high) should be determined to improve models to predict airborne spread.
5. Taq Man PCR technique shows promise for the quantitative diagnosis of FMDV and for describing the kinetics of infection.
6. Detection of the mucosal IgA response to FMDV should be considered as an additional method to detect carrier cattle and cattle exposed to infectious virus.
7. The FMD situation in Turkey is still of concern. At the moment of the meeting 3 FMDV serotypes (O, A and Asia 1) were circulating in Turkey. Continued submission to the WRL of additional outbreak samples from various parts of Turkey and from each of the detected serotypes should be encouraged.

Item 3 Control of FMD

The following conclusions and recommendations were made:
1. In the first of four presentations under this item the role of sheep in the epidemiology of FMD was reviewed and the main features of virus transmission related to that species were highlighted. It was concluded that there might be certain circumstances when the self-limiting infection of sheep can permit different control strategies to be applied. A series of recommended actions and strategies were presented which aim to achieve particular control and eradication objectives under different circumstances in which sheep are a major component of the livestock population.
2. Studies should be initiated to determine the feasibility of measures to reduce the risk associated with trade in intestines for sausage casings and these measures should be submitted to the OIE Code Commission for consideration.
3. The deterioration of FMD control procedures in Transcaucasia and Central Asia has increased the risk of the introduction of FMDV particularly for the Russian Federation and possibly also for Europe. The Russian southern border with Kazakhstan is not protected by a buffer zone. Priority should be given to the strengthening of the Russian buffer zones and to the improvement of surveillance and control programmes in the Transcaucasian region. The ARRIAH, Russia should
send to the WRL, Pirbright, representative samples of the FMD virus isolates, which it receives from the ex-USSR countries.

4. The results of the tests for non-structural antibodies indicate that FMD virus was circulating in the three Transcaucasian republics during 1999 and 2000. Cattle in the Transcaucasian region control programme should be vaccinated within a short period of time in the early spring before they are permitted to move to highland pastures. Unfortunately there is a shortage of vaccine for use in Transcaucasian countries and the locally produced vaccine (from Armenia and Georgia) is not fully quality controlled.

**Item 4 New developments in FMD diagnostics**

Four papers were presented on ‘Antigen detection and virus isolation’, 5 on ‘PCR-based testing’ and 6 on ‘Serology’. From these it was concluded and recommended that:

1. The work on the immortalisation of primary cells for virus isolation and on the type independent detection of FMDV antigen by ELISA should be continued.
2. The combination of immunocapture PCR with PCR-ELISA would increase the capacity for sample analysis.
3. Chromatographic strips utilising MAbs that bind all types of FMDV could provide the possibility of a pen-side preliminary diagnosis leading to more effective control but only in certain situations, i.e. in endemic areas. Standard guidelines for the use and application of the strip-tests should be prepared.
4. Tests for antibody against non-structural proteins of FMD will have an increasing role in disease surveillance and control. Reference sera should be identified for internal and external quality assessments of test performance.

**Item 5 Phase XVI**

Conclusions and Recommendations:

1. The reference sera (O1 Manisa, A22 Iraq and C1 Oberbayern) used in phase XVI should be recommended to OIE as the international reference standards. The FAO Phase XVII Collaborative Laboratory Study should supply candidate reference sera for the O PanAsia, A Iran ’96 and Asia1. Some of these sera should be post-infection which could be tested for the presence of antibodies to non-structural proteins.
2. A comparison should be made between low titre serum produced naturally and that produced artificially by diluting a high-positive serum with negative serum.
3. The currently used LPB ELISA for FMDV antibodies suffers from non-specific positive results and cross-reactivity. Protocols for the solid phase competition ELISA and solid phase blocking ELISA should be circulated to national laboratories of member countries.
4. Higher cut-off titres can be used by national laboratories in response to particular requirements within their own countries, such as post-outbreak surveillance.

**Item 6 Vaccines**

From the 6 papers presented it was concluded and recommended:

1. Three different ways of getting a higher immune response after vaccination were presented:
   - High potent emergency FMD oil vaccine in pigs and sheep probably confer immunity for up to 6 months.
   - The incorporation of saponin in water-in-oil vaccines resulted in high antibody levels even in calves with high levels of residual maternal antibodies.
   - FMD vaccine mixed with anti-serum against the FMD-type of the vaccine at one particular Ag/Ab ratio
   This research should be encouraged
2. The combined use of formaldehyde and BEI was shown to shorten the time needed for complete inactivation.
3. The use of Ab tests for NSPs can substantially contribute to an objective evaluation of emergency vaccine efficacy in sheep.

4. The feasibility of developing a practical PD50 test in pigs should be further considered. However, it should be restricted to particular cases.

**Item 7 European Pharmacopoeia (E.P.)**

It was recommended that contacts with the EP and EMEA should be continued and finalized to obtain a substantial inclusion of the contents of the report proposed by the EP Working Group.

The EP Working Group report was presented at on a meeting of Group 15V of the Eur. Pharm. in Strasbourg. All members of Group 15V present voted ‘In favour of proposing to the Eur. Pharm. Commission that the FMD vaccine Monograph should be revised’.

The Swiss member of Group 15V will prepare a revision proposal. The Chairman of Group 15V proposed that he should take contact with the RG. The Secretary, Mr. Castle, will circulate the Swiss proposal to the other members of Group 15V and to us for comments.

The EP Working Group report will also be presented at meeting of EMEA on December 4, 2000.

**Item 8 Expert Elicitation Workshop**

Prior to the Session of the Research Group (RG) an expert elicitation workshop on the Risk of Introduction of FMD into Europe was conducted. The workshop sought to answer 3 key questions by eliciting the opinions of the experts:

a) what groups of countries in Europe were most likely to experience outbreaks of FMD in the next 5 years?

b) What groups of external countries posed the greatest risk to Europe?

c) what routes of introduction posed the greatest risk to Europe?

In addition, the experts were asked to predict the minimum, most likely and maximum number of outbreaks that Europe would experience over the next 5 years.

The preliminary results were presented to the meeting and displayed good convergence between the experts’ opinion.

**Conclusions and Recommendations:**

1. It was concluded that the results accurately reflected the experts’ opinions on the risk of introduction of FMD to Europe

2. EUFMD and the Research Group continue to examine methods of analysing the risk of introduction of FMD to Europe and continue its collaborative efforts/activities with specialized European institutes.

3. Future elicitations involve the gathering in advance of relevant data especially in relation to trade prices, volumes and movements of commodities.

4. Future elicitations include experts from the livestock and meat industries and veterinary experts involved from Veterinary Services, in the control of trade in livestock and all animal products.

**Item 9 Closed Session**

1 Follow-up to the activities of the working group on the European Pharmacopoeia

Members of the group agreed that the Secretary would send the report of the Working Group to the Director of OIE. Dr Paul Kitching, WRL, would address the question to the OIE FMD and other Epizootics Commission at its next meeting in September.

2 EU antigen bank

Members of the Group expressed their concern:

- regarding the supply from the EU antigen bank to Turkey for vaccination in Thrace of a trivalent vaccine, which includes the A22 strain as this strain, does not protect correctly against new type A currently circulating in Turkey and in the Middle East. However, it was explained that EU had no possibility to supply A Iran 96 from its antigen bank at the moment of the decision.
- on the depletion of the EU bank following the supply of FMD vaccine of O type to Japan, Korea and Turkey.

It was agreed that this concern should be addressed to the CVO’s of the Executive Committee who could probably refer it to EC.

3 Information on the recent and future missions to Caucase, Greece and Turkey
- Dr M. Amadori and Dr Y. Leforban reported on their mission to Transcaucasian countries from 24 June to 9 July 2000.
- The Secretary reported on his mission to Greece (joint EC/EUFMD) mission from 24 to 28 July 2000.
- He also informed the Group that an EC/EUFMD mission will visit Thrace during the first week of October to assess progress in the vaccination campaign with the trivalent vaccine provided from the EU antigen bank.

Concerning the vaccination in Thrace, the group recommended that:
  * vaccination start from the border
  * clinical examination be carried out prior to vaccinating
  * vaccination be organised over a short period of time (one month)
  * the recommendations of the EC/ EUFMD mission, which visited Thrace in 1998 during the emergency campaign against type A, are taken into account.
- Dr J. Ryan reported on the FAO TCP in progress between Iran and Turkey for strengthening surveillance and control of new FMDV strains.

4 Follow up to the Workshop on NSP ELISA in Brescia in January 2000. Need for an additional workshop for other National FMD labs.
   It was suggested that if another technical meeting on the subject is organised by the Balkan countries, other countries in the region, including Romania be associated.

5 Follow up to the discussion on SVD at the previous Sessions.
The Chairman informed the group that he will participate in the meeting of the OIE Regional Commission for Europe and will present the replies of the CVO’s to the questionnaire on SVD, which he had circulated.

6 Relations between EUFMD and EC: utilisation of the Trust Fund
   The Secretary informed the Group about the ongoing discussion between the EUFMD/FAO and EC for the signature of a new four-year agreement on the utilisation of the Trust Fund.

7 Circulation of the information to the Group by the Secretariat, Evolution in the roles and methods of work for the RG
   The Group was interested in receiving all epidemiological information on FMD.
   The Secretary also stated that he was open to any proposal of the Group for updating the methods of work of the RG including the organisation of electronic conferences if necessary

8 Next group to be designated by the 34th Session of EUFMD together with the Activities of the RG over the coming years
   The Chairman recalled the role of the RG, which is to give scientific advice to the Executive Committee. He also stressed the need for the members to actively participate in the activities of the Commission by presenting contributions to the meetings and by participating in the EUFMD missions when requested.

9 Venues for the next Sessions of the RG
   2001 Denmark
   2002 Turkey
   2003 Switzerland
   Proposals from Brescia and Madrid for the next sessions.