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REPORT OF THE MEETING OF THE OIE FOOT AND MOUTH DISEASE AND OTHER EPIZOOTICS COMMISSION

Paris, 17–21 September 2001

A meeting of the OIE Foot and Mouth Disease (FMD) and Other Epizootics Commission was held at the OIE headquarters from 17 to 21 September 2001.

The participants were welcomed by the Director General of the OIE, Dr Bernard Vallat. He pointed out the changes and adjustments that had been made in both the Organisation and the Commission's work. These included the creation of new Ad hoc Groups – on Bovine spongiform encephalopathy (BSE), Food Safety and Animal Welfare. He informed the Commission that the Working Group on Informatics and Epidemiology had been disbanded. Dr Vallat went on to say that it was important for the Commission to consider the recommendations of the joint FAO[1]/OIE International Scientific Conference on FMD. Finally, he reminded the Commission that any proposed amendments to the chapter in the *International Animal Health Code* (the *Code*) on FMD had to be reviewed by Member Countries and be available by May to comply with the International Committee request.

The meeting was chaired by the President of the Commission, Dr Gavin R. Thomson. The Agenda and List of Participants are given as Appendices I and II, respectively. Prof. Vincenzo Caporale, Vice-President of the Commission, and Dr Paul Kitching, an Observer to the meeting, were not able to attend.

1. Informal review of world epizootic situation

1.1. Foot and mouth disease

Dr Alex Donaldson (World Reference Laboratory [WRL] for FMD) reviewed the international situation with respect to FMD in 2001. Additional information was provided by Drs Yves Leforban (European FMD Commission), Mark M. Rweyemamu (FAO) and Eduardo Correa Melo (Pan American FMD Centre).

1 Food and Agriculture Organization of the United Nations

Europe

The first outbreak in the United Kingdom (UK) since 1981 was diagnosed on 20 February in pigs at an abattoir near Brentwood, Essex. This outbreak was linked to a swill-fed pig premises near Heddon, Northumberland, which was probably infected in early February and the source of the epidemic. Airborne virus from there infected a nearby cattle and sheep holding in mid-February, i.e. before the first outbreak was confirmed in Essex. The movement of infected sheep from Northumberland through a series of markets resulted in extensive spread in the north-west and south-west of England. Additional movements of sheep resulted in the dissemination of the virus to Scotland, Wales, Northern Ireland, the Republic of Ireland and France. Calves that had been in contact with sheep imported into France from the UK spread the virus probably to The Netherlands. A summary of the episodes in the different countries is provided in Table 1.

Table 1. Summary of the FMD situation in Europe (April-September 2001)

Country	No. outbreaks	No. animals slaughtered	Vaccination	Pre-emptive culling
Great Britain	1985	3,726,801	No	Yes
Northern Ireland	4	51,199	No	Yes
Republic of Ireland	1	60,000	No	Yes
France	2	57,968	No	Yes
The Netherlands	26	250,000	Yes	Yes

Characterisation of a series of isolates of the virus from England and neighbouring countries showed that they all belonged to the type O PanAsia topotype. Strains in this topotype have spread extensively around the world during the past ten years. So far it has not been possible to identify the source of the virus that caused the epidemic in England.

The other region in Europe affected during 2001 was Turkish Thrace, where in June type O virus was confirmed in a flock of goats in Malkara district, Tekirdag province. Infected animals brought in from Asiatic Turkey by dealers were suspected to have caused the outbreak. The outbreak was controlled by ring vaccination.

South America

Dr Donaldson reported that type A outbreaks continued to spread in Argentina during 2001. These were the first outbreaks in Argentina for nearly 7 years and came less than one year after the declaration of freedom without vaccination. The sequencing of virus isolates from different parts of Argentina in 2001 showed that they were related to, but antigenically and genomically different from, isolates of type A in Argentina in 2000. The origins of the two type A strains have not been identified, although a neighbouring country has been implicated. In April the type A epidemic extended into Uruguay and spread rapidly resulting in more than 80 outbreaks by the end of that month. Apart from an outbreak of type O in October 2000, which was quickly controlled by stamping out, Uruguay had been free for over 10 years. The type A epidemic also involved Rio Grande do Sul, Brazil where 11 outbreaks were reported up to May. Argentina reported 1,429 outbreaks up to 23 June and Uruguay 1,737 outbreaks up to 12 July. Mass vaccination has been reinstated in Argentina, Uruguay and southern Brazil.

A type O outbreak was reported in February by Colombia. The following countries maintained their FMD free without vaccination status: Chile (since 1981), Guyana (since 1978), French Guyana (since 1953) and Surinam (never affected).

Dr Correa reported that the south of the continent is experiencing an epidemic that started in late February with two establishments affected by the disease in the administrative areas of San Andres de Giles and Mercedes in the Buenos Aires province of Argentina.

In one month the epidemic spread through the provinces of Buenos Aires, La Pampa, San Luis, Cordoba, Santiago del Estero, Santa Fe, Entre Rios and Corrientes, before gradually creeping into the provinces of El Chaco, Mendoza, Rio Negro, San Luis and Tucuman. There were a total of 2,108 outbreaks in Argentina up to September. Even though the occurrence of new outbreaks has slowed down considerably, the disease continues to be active.

In April the disease spread to Uruguay where, at first, stamping out was applied to prevent the disease from spreading. Between 23 and 29 April, 4,593 cattle, 1,481 sheep and 332 pigs were destroyed, but on 29 April the stamping-out policy was discontinued due to evidence that the disease had already spread to the rest of the country. There were a total of 2,056 outbreaks in Uruguay, involving 76,856 sick cattle, plus 228 sheep and 112 pigs. Uruguay's last outbreak was reported on 21 August.

In early May, FMD spread to the Brazilian state of Rio Grande do Sul, affecting the municipalities of Santana do Livramento and Alegrete. By the end of May it had spread to a further six municipalities, totalling 30 outbreaks of FMD, involving 11,863 exposed animals and 330 sick animals (attack rate $\approx 3\%$). No new cases have been reported since 18 July. Brazil has reported a further eight FMD outbreaks in other regions of the country.

The active virus, identified by PANAFTOSA (Pan American Foot and Mouth Disease Centre), displays many similarities to group A24 sera and to a lesser extent to groups A79 and A81 sera. Neutralisation studies were carried out by PANAFTOSA using a bank of bovine sera collected from animals that had been vaccinated and revaccinated with trivalent oil-based vaccine (O_1 Campos; A_{24} Cruzeiro and C_3 Indaial) against the field strain. These studies indicate a 72.5% expected protection rate after primary vaccination and 99.8% after revaccination, suggesting that the use of vaccines containing the A_{24} Cruzeiro virus is effective.

Elsewhere in South America, Bolivia has also had a number of outbreaks and the disease has spread further than in previous years, with 114 outbreaks of FMD caused by type O as well as type A viruses. Ecuador has only two confirmed cases, Colombia has seven and Venezuela has two.

Asia

The PanAsia type O strain, so-called because of its extensive geographical distribution, has continued to spread both in Asia and other parts of the world (see Europe). It has been isolated from a wide range of species, including cattle, pigs, sheep, goats, water buffalo and camels.

Type O predominates in South-East Asia and has been reported by Hong Kong, Malaysia, Myanmar, the Philippines and Thailand. Taipei China reported an outbreak of type O in pigs at an abattoir in Taipei Prefecture. Nucleotide sequencing showed that the isolate was genetically very similar to the O Taiwan 97 strain, suggesting that the island remains endemically infected. The outbreaks of type O in the Philippines were restricted to Luzon.

Turkey reported outbreaks due to serotypes O, A and Asia 1. Outbreaks of Asia 1 were also reported by Iran, Afghanistan, Georgia and Azerbaijan. Type O outbreaks were reported by a series of countries including Abkhazia, Bahrain, Bhutan, Iraq, Kazakhstan, Kuwait, Kyrgyzstan, Mongolia, Nepal, Oman, Qatar, Saudi Arabia, United Arab Emirates and Yemen.

Africa

The FMD situation in many countries in Africa is unclear as surveillance is either patchy or non-existent. Most of the countries in west, central and east Africa are probably endemically infected. In 2001 type O was reported by Kenya, Mauritania, Senegal and Uganda.

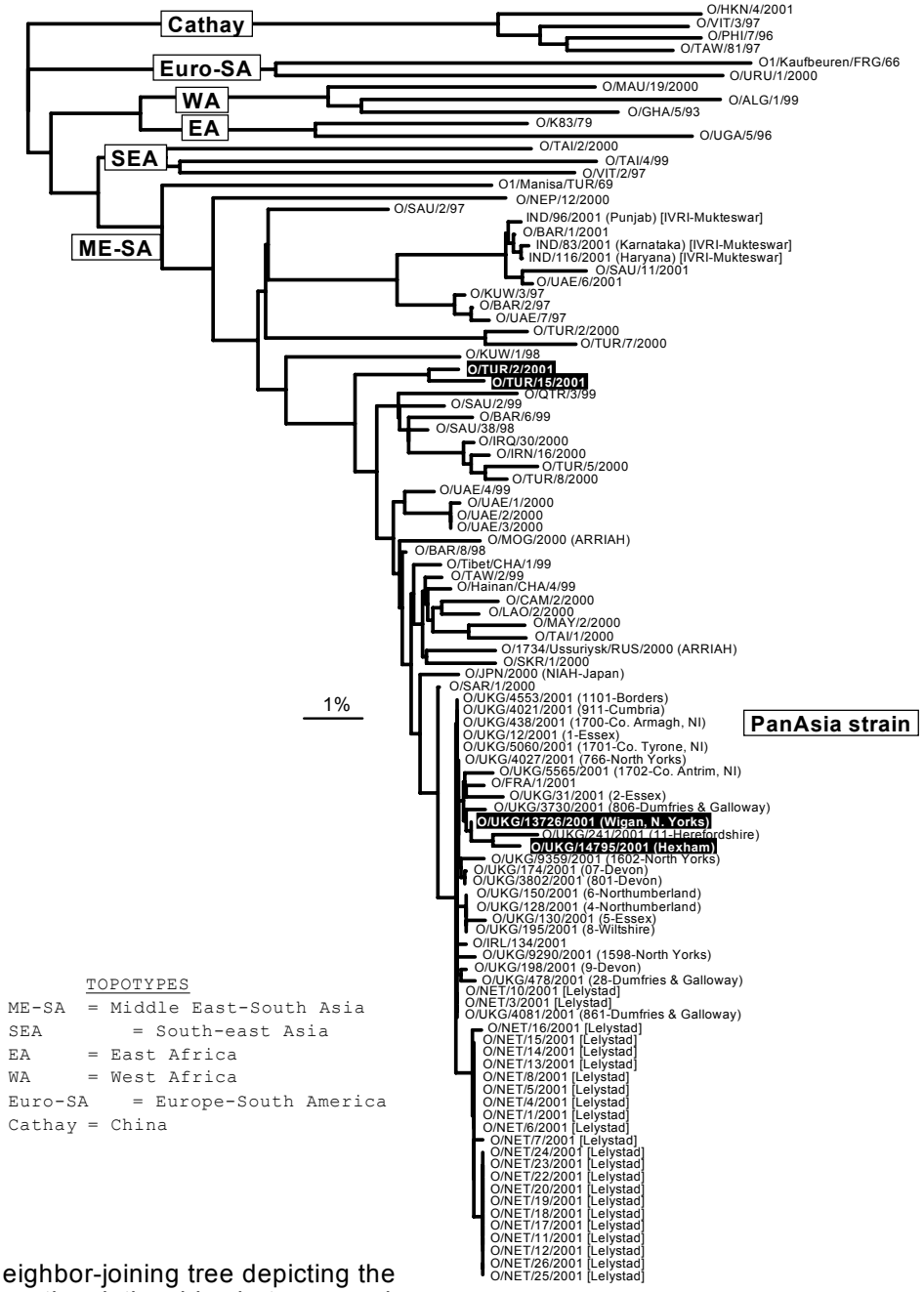
Malawi reported an outbreak of type SAT 1 in the same area where outbreaks had occurred in April/May 2000. In January, Swaziland reported an outbreak of SAT 1 in cattle in the northern Hhohho region along the border with South Africa in the traditionally FMD free area of Swaziland. The outbreak was controlled by stamping out and ring vaccination. In February, an outbreak of SAT 2 was reported by South Africa in cattle in the district of Mhala, northern Province. Virus sequencing indicated a relationship with similar SAT 2 viruses found in African buffalo. The origin was suspected to be carrier buffalo that had escaped from the Sabie Sands Nature Reserve. In August, Zimbabwe reported that SAT 2 had been detected in animals slaughtered at the Bulawayo abattoir and was traced back to a feedlot. It is suspected that the feedlot may have received illegal cattle originating from the FMD control zones. Botswana has maintained its FMD free status.

Table 2 shows the results of tests on samples submitted to the OIE/FAO World Reference Laboratory for FMD at Pirbright during the period 1 January to 31 August 2001.

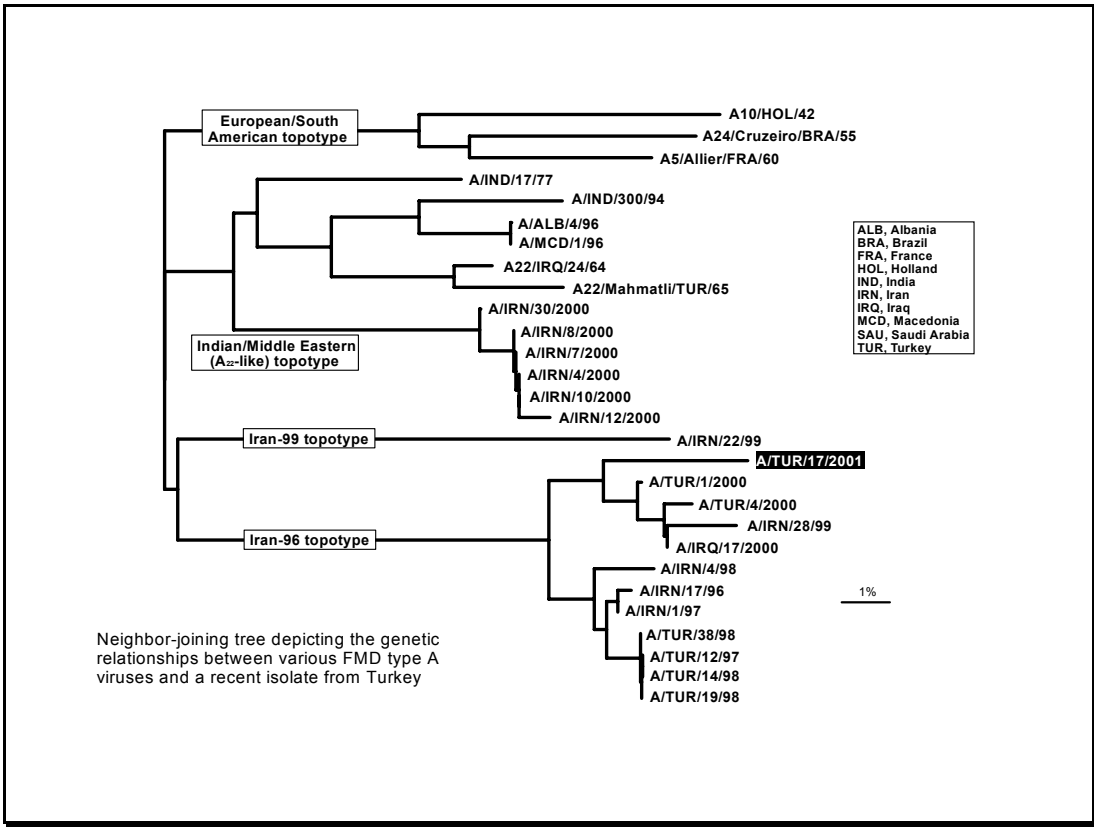
OIE/FAO World Reference Laboratory for Foot and Mouth Disease*
CUMULATIVE REPORT FOR JANUARY - AUGUST 2001

COUNTRY	No. of samples	FMD virus serotypes							SVDV (a)	NVD (b)
		O	A	C	SAT 1	SAT 2	SAT 3	Asia 1		
ABKHAZIA	1	1	-	-	-	-	-	-	-	1
AFGHANISTAN	4	-	-	-	-	-	-	4	-	-
ARGENTINA	7	-	7	-	-	-	-	-	-	-
ARMENIA	1	-	1	-	-	-	-	-	-	-
BAHRAIN	8	7	-	-	-	-	-	-	-	1
BHUTAN	5	1	-	-	-	-	-	-	-	4
FRANCE	1	1	-	-	-	-	-	-	-	-
GEORGIA	2	-	-	-	-	-	-	2	-	-
HONG KONG (PRC)	17	12	-	-	-	-	-	-	-	5
IRAN	18	6	-	-	-	-	-	9	-	3
IRAQ	5	4	-	-	-	-	-	-	-	1
IRELAND	297	6	-	-	-	-	-	-	-	291
KYRGYZTAN	1	-	1	-	-	-	-	-	-	-
MALAYSIA	6	6	-	-	-	-	-	-	-	-
MAURITANIA	17	1	-	-	-	-	-	-	-	16
MONGOLIA	1	1	-	-	-	-	-	-	-	-
NETHERLANDS	4	4	-	-	-	-	-	-	-	-
OMAN	7	7	-	-	-	-	-	-	-	-
PORTUGAL	5	-	-	-	-	-	-	-	-	5
RUSSIA	2	2	-	-	-	-	-	-	-	-
QATAR	6	6	-	-	-	-	-	-	-	-
SAUDI ARABIA	12	10	-	-	-	-	-	-	-	2
SENEGAL	4	1	-	-	-	-	-	-	-	3
TURKEY	18	10	4	-	-	-	-	1	-	3
UGANDA	6	2	-	-	-	-	-	-	-	4
UNITED ARAB EMIRATES	9	4	-	-	-	-	-	-	-	5
UNITED KINGDOM	14,549[H]	1,789	-	-	-	-	-	-	-	11,380
URUGUAY	2	1	1	-	-	-	-	-	-	-
YEMEN	1	1	-	-	-	-	-	-	-	-
TOTAL	**15,016**	1,883	**14**	**-**	**-**	**-**	**-**	**16**	**-**	**11,723**

* Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 ONF, UK
(a) Swine vesicular disease virus
(b) No foot and mouth disease, swine vesicular disease or vesicular stomatitis virus detected
H 1,380 samples were not processed



Neighbor-joining tree depicting the genetic relationships between various FMD type O viruses



Neighbor-joining tree depicting the genetic relationships between various FMD type A viruses and a recent isolate from Turkey

1.2. Rinderpest

There are only three zones – south-eastern Sudan, southern Somalia and southern Pakistan – where viral activity is suspected, but it has not been possible to confirm these suspicions. Prospects for global eradication of the disease therefore look good.

2. Review of country or zone submissions for recognition of freedom from foot and mouth disease and rinderpest

2.1. Foot and mouth disease

The Commission considered the applications from France, Ireland, Korea (Rep. of), and the Netherlands to restore their FMD free status. All four countries supplied the Commission with a complete review of the outbreaks, their eradication programmes and the results of their monitoring and surveillance programmes. Based on the information supplied, the Commission returned France, Ireland, Korea (Rep. of) and the Netherlands to the list of FMD free countries.

The Commission also considered two Member Countries' applications for recognition as FMD free – one for the entire country and the other for a zone. In both cases, additional information was requested.

2.2. Rinderpest

The Commission considered the application from one Member Country to be recognised as free of rinderpest disease and concluded that the application exceeded the requirements and approval will be recommended. All Member Countries will now be given an opportunity to comment on the application and, if there are no objections, the recommendation will be submitted to the International Committee.

3. Recommendations of the OIE/FAO International Scientific Conference on Foot and Mouth Disease

The proposed amended *Code* chapter on FMD was discussed. This had been rejected by the International Committee in May 2001 because it was deemed to have been submitted too late for Member Countries to review and also because it failed to define the concept of infection. It was concluded that the proposed changes needed to be sent to the Member Countries for their observations well before the meeting. It was decided that Dr Kitching would be asked to prepare the revised FMD chapter based on the information supplied to him from this meeting of the Commission.

i) Within the framework provided by the International Committee, there was a need to find a generic definition of infection for incorporation into the *Code* and a specific definition of FMD infection for insertion in the FMD chapter. The proposal was discussed with the International Animal Health Code Commission. The following is the proposed generic definition of infection that will be submitted to the International Committee:

Generic definition of infection

Infection means

The process whereby pathogenic organisms become established and multiply in or on the body of the host. This process may result in local or systemic disease.

Specific definition of FMD infection to be included in the *Code* Chapter 2.1.1 is at follows

The following defines the occurrence of FMD infection:

FMDV has been isolated and identified as such from an animal (free-living or domestic), a product derived from that animal or its environment;

OR

Viral antigen or viral RNA specific to one or more of the serotypes of FMDV has been identified in material derived from one or more animals (free-living or domestic); and antibody to either the structural or nonstructural proteins of FMDV, that is not a consequence of vaccination, has been unequivocally identified in those animals.

ii) The maximum length of time following an outbreak before a country can apply to regain its free status under Article 2.1.1.6 was discussed. It was decided that 24 months was the maximum time allowable. Subsequent to that period, the country would need to reapply, based on Articles 2.1.1.2. and 2.1.1.3. and, in the case of zones, Articles 2.1.1.4. and 2.1.1.5.

4. Further Recommendations by the OIE/FAO International Scientific Conference on Foot and Mouth Disease

i) Recommendation No. 2c, point 3: Vaccination of rare breeds and zoological animals during outbreaks of FMD

The following response was proposed:

During the recent FMD epidemics in Europe, especially in Britain, different groups made strong pleas for the exceptional vaccination of rare breeds and zoological animals. The Commission considered this possibility and recommended against making an exception for such animals as vaccination would possibly create a group of animals of potential risk. The Commission recommended that a better strategy would be to increase biosecurity to reduce the risk of these groups of animals being exposed to infection. The storage of valuable genetic material from rare breeds should be part of national contingency planning.

This response is not intended to prevent a country from creating a zone where vaccination is practised. However, if such a zone is created all the requirements stated in the *Code* must be complied with.

ii) Recommendation No. 2c, point 2: Compartmentalisation

It was decided to consult the Working Group on Wildlife Diseases on this issue as it had originally proposed that infection of wildlife should not necessarily affect a country's trade status with respect to infection in domestic stock.

iii) Dr Kitching was asked to develop responses to the following recommendations from the FMD Conference

Point 3 of recommendation no. 1 on defining surveillance standards;

Point 8 of recommendation no. 2 a) on the risk of spreading FMD through the movement of Equidae;

Point 3 of recommendation No. 3 on developing standards for trade in animal products that are not currently considered in the *Code*. These products include swill, sausage casings, other offal, gelatin from skin and bones, and lanolin.

5. Review of the programme for the FMD International Symposium organised by the Mérieux Foundation, International Association for Biologicals (IABs), and OIE

The FMD Commission supports the international symposium to be held in Lyon, France, 3–5 June 2002, and provided input to the programme.

6. Surveillance standards for foot and mouth disease

The final draft of this Standard will be complete only after the *Code* had been revised, as surveillance requirements are dependent on the provisions of the *Code*. Dr Kitching will be asked to finalise the Standard at that time.

7. Amendments to the foot and mouth disease chapter in the *International Animal Health Code*

The proposed new chapter is being drafted as discussed previously in Items 3 and 4 iii. When the chapter is completed, it will be sent to Member Countries for comment; it will not be included with this report. It is hoped that the chapter can be sent and comments received before the next meeting of the Commission.

8. Amendments to the Rift Valley fever chapter in the *International Animal Health Code*

There are severe trade restrictions on exporting livestock between the Horn of Africa region and the Arabian Peninsula due to the outbreak of Rift Valley fever (RVF) in Saudi Arabia and Yemen in 2001. This, in conjunction with the proposal from the Organization for African Unity and FAO to re-establish this major trade flow between the two regions, requires appropriate recommendations in the *Code* chapter on RVF.

The Commission deemed the *Code* chapter on RVF to be inadequate and considered it essential to review the issue, which it suggested should be done by an Ad hoc Group. This Group could be guided by the recent recommendations from FAO-sponsored expert meetings in Rome, Italy, and Nairobi, Kenya, and the WHO-sponsored expert meeting held in Cairo, Egypt. The Ad hoc Group's recommendations could be circulated to Member Countries for comment and the revised chapter could then be presented to the International Committee in May 2002 for approval.

9. Global Rinderpest Eradication Programme

The advisability of the OIE and FAO collaborating to achieve global eradication of rinderpest by 2010 was supported by the FMD and Other Epizootics and the Code Commissions. In particular, it was accepted that the OIE and Global Rinderpest Eradication Programme (GREP) processes could be used to complement each other as outlined in the background document submitted to the FMD Commission. On this basis the FMD Commission recommends that OIE and FAO collaborate in a joint committee to facilitate cooperation between the two organisations in the eradication of rinderpest and to agree mutually on a verification process for global rinderpest eradication.

10. Incorporation of epidemiology and epidemiological surveillance into the remit of the Foot and Mouth Disease and Other Epizootics Commission

This Item was not addressed because of the absence of the Vice-President of the Commission, who was responsible for the coordination of this activity.

11. Freedom from Bovine spongiform encephalopathy: Establishing an Ad hoc Group to evaluate country compliance with the *International Animal Health Code*

The Commission invited two European Commission BSE experts to discuss and analyse their experience on assessing the risk of BSE being present in countries, and the extent to which their experience could benefit the OIE.

On this basis the Commission concluded that it was necessary to establish a small Ad hoc Group that is technically competent and geographically representative of the membership of the OIE. Given the amount and complexity of the work to be done, the Commission believes it is essential that a full time coordinator be provided by OIE for this Group for a period of one to two years.

The first task this Group should face is to define clearly how the process of evaluation will be implemented and the criteria and limits that will be used to assess the applications.

12. The Foot and Mouth Disease and Other Epizootics Commission Web site

The Commission agreed that the OIE Central Bureau needed to provide a framework within which the Commission could incorporate its specific subject matter. The Commission believed that the following aspects would need to be incorporated as a minimum: i) reports produced by the Commission; ii) existing procedures for declaring countries or zones free from disease; and iii) questionnaires available for Member Countries to apply for disease/infection free status.

13. Working Group on Biotechnology

In the opinion of the Commission, the Working Group on Biotechnology should be disbanded as a permanent working group and be reconstituted as an Ad hoc Group to assist any of the Specialist Commissions when required.

14. Antimicrobial resistance

The matter was referred to the Standards Commission.

15. Other matters

a) OIE publication regarding the Sydney Olympics

The Commission supported the above-mentioned publication, as it could be used as a guide by countries that may hold this type of event in the future.

b) Book on 'Foot and mouth disease 1996 – the Managing and Veterinarian sanitary measures in the epizootiological regions in Nish and South Morava' in Serbia

Based on the translated portion of the book that was provided, it was decided that the book did not have enough general relevance to justify the cost of translation.

c) Modifying the questionnaire on FMD to cover countries reapplying for freedom after becoming infected

Dr Kitching was commissioned to prepare a proposal after the FMD *Code* chapter has been revised and the FMD surveillance standards have been drafted.

d) Procedures for recovering FMD free status between Commission meetings

It was agreed that in general it was not necessary to establish a procedure for this. However, the Commission could consider a special procedure for exceptional circumstances.

e) Camelidae

The possibility of according South American Camelidae special consideration in the case of FMD outbreaks was discussed. However, the Commission concluded that although there is evidence that camelids differ from domestic artiodactyls in respect of their susceptibility, there are many species of wildlife where this applies equally. Therefore, to single out one particular species of susceptible animal is not justifiable in present circumstances.

f) Swine vesicular disease

The swine vesicular disease (SVD) chapter in the *Code* needs to be revised as it assumes that infection will always be reflected by the occurrence of disease. SVD in some cases may only produce mild clinical signs or no clinical manifestations. The chapter makes no references to serology, which is essential in establishing the presence/absence of the infection in any particular geographical area. Furthermore, serology for this disease is relatively simple. A draft of an amended chapter will be prepared for the next Commission meeting.

g) Reference Laboratories

The FMD Commission wished to call the Director General's attention to the complex and delicate situation that reference laboratories face when carrying out their activities, which involve ever more technically demanding tasks and resources, without a corresponding contribution from the beneficiaries.

h) Date of the next meeting

The date for the next meeting was set for the week of 21 January 2002. The provisional schedule for subsequent meetings are: 24–28 June 2002 and 25–29 November 2002.

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…/Appendices

Appendix I

REPORT OF THE MEETING OF THE OIE FOOT AND MOUTH DISEASE AND OTHER EPIZOOTICS COMMISSION

Paris, 17–21 September 2001

Agenda

1. Informal review of world epizootic situation
2. Review of country or zone submissions for recognition of freedom from foot and mouth disease and rinderpest
3. Recommendations of the OIE/FAO International Scientific Conference on Foot and Mouth Disease
4. Further Recommendations by the OIE/FAO International Scientific Conference on Foot and Mouth Disease
5. Review programme of the FMD International Symposium organised by the Mérieux Foundation, International Association for Biologicals (IABs), and OIE
6. Surveillance standards for foot and mouth disease
7. Amendments to the foot and mouth disease chapter in the *International Animal Health Code*
8. Amendments to the Rift Valley fever chapter in the *International Animal Health Code*
9. Global Rinderpest Eradication Programme
10. Incorporation of epidemiology and epidemiological surveillance into the remit of the Foot and Mouth Disease and Other Epizootics Commission
11. Freedom from Bovine spongiform encephalopathy: Establishing an Ad hoc Group to evaluate country compliance with the *International Animal Health Code*
12. The Foot and Mouth Disease and Other Epizootics Commission Web site
13. Working Group on Biotechnology
14. Antimicrobial resistance
15. Other matters

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