

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

Paris, 21 –25 January 2002

A meeting of the OIE Foot and Mouth Disease (FMD) and Other Epizootics Commission was held at the OIE headquarters from 21 to 25 January 2002. The Agenda and List of Participants are given at Appendices I and II, respectively.

The Director General of the OIE, Dr Bernard Vallat, welcomed the participants. In his talk, Dr Vallat explained changes to the organisational structure of the OIE and introduced the new Deputy Head of the Scientific and Technical Department, Dr Dewan Sibartie. He also mentioned that Dr Alex A. Schudel would be the new Head of the Department, replacing Dr James E. Pearson at the end of June when he retires.

The President of the Commission, Dr G.R. Thomson, chaired the meeting.

1. Informal review of the world epizootic situation

1.1. Global FMD situation 1 September to 31 December 2001

The global FMD situation between 1 January and 31 August 2001 was outlined by Dr A Donaldson on behalf of the World Reference Laboratory for FMD and Dr E Correa Mello on behalf of PANAFTOSA (Pan American Foot and Mouth Disease Centre). The following is a summary of these reports.

Europe

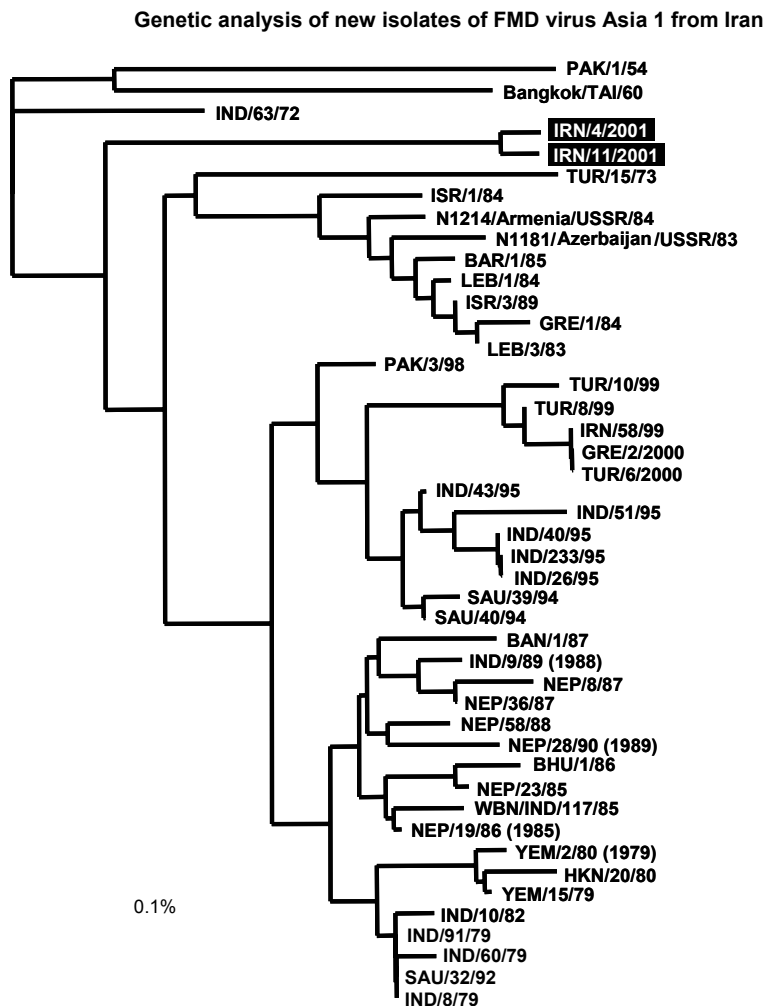
France, The Netherlands and the Republic of Ireland have regained their status of FMD free without vaccination. A total of 2,030 outbreaks were confirmed in the United Kingdom in 2001 – 4 in Northern Ireland and 2,026 in Great Britain. The first outbreak was confirmed on 20 February 2001 and the last on 30 September 2001. More than 3,073,500 ELISA tests were carried out as part of the control programme.

Africa

Zimbabwe experienced 18 outbreaks due to SAT 2 virus between 17 August and 22 October 2001 in the provinces of Matabeleland North, Matabeleland South and Masvingo. It was suspected that there were two sources of infection, with African buffalo being the origin in both cases. In September, Mali and Senegal reported outbreaks. Those in Senegal were shown by the WRL to be due to type O virus. Samples were not submitted by Mali. In November, Uganda reported that more than 200 cases near Kiboga (00 50'N - 310 45' E) in a communal grazing area where 80,000 cattle were at risk. Type O virus was identified in two samples submitted to the WRL. However there were many outbreaks of FMD in other African countries that were not reported.

Asia

Peninsular Malaysia reported 8 outbreaks in Kelantan due to type O virus between August and October. The source was considered to be the illegal entry of animals from a neighbouring country. Type O outbreaks were also reported by Hong Kong, Laos, Vietnam, Myanmar, The Philippines, Thailand and Nepal. Kuwait reported a type O outbreak in October. Turkey reported type O and Asia 1 outbreaks in September and type O outbreaks in October. Nucleotide sequencing of the VP1 gene of two isolates of Asia 1 virus from Iran in 2001 showed that they were different from other type Asia 1 strains (see dendrogram).



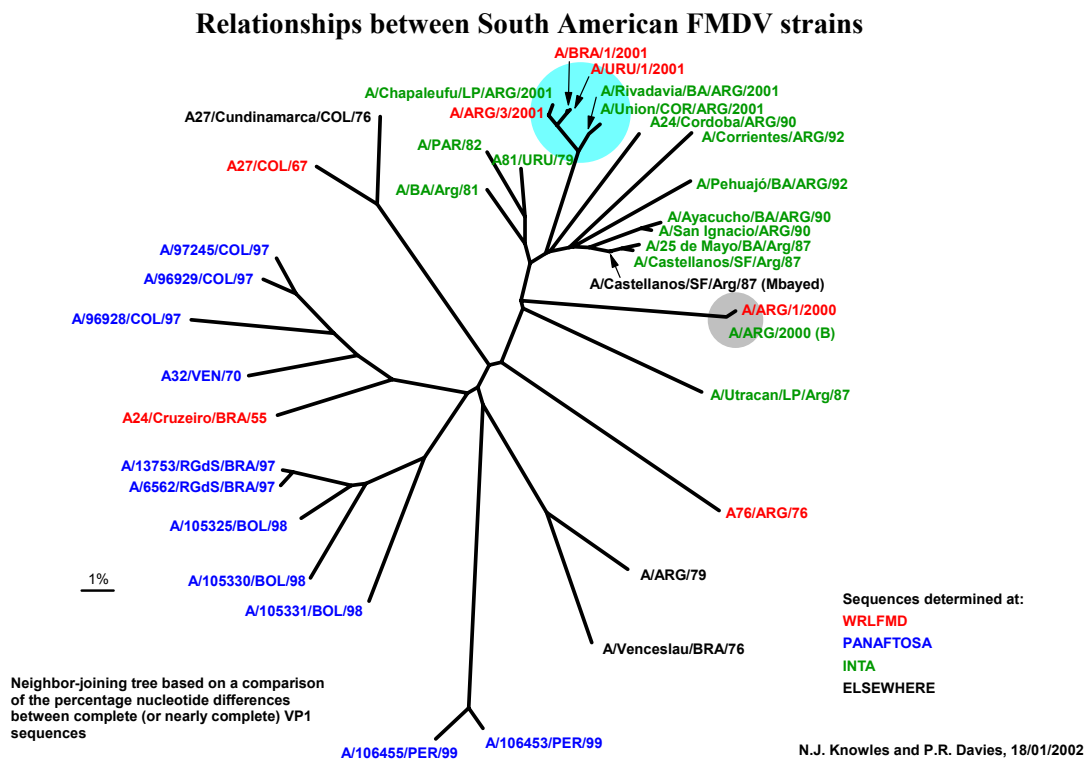
Unrooted Neighbour-joining tree based on a comparison of nt 469-633 of the VP1 gene

N.J. Knowles & P.R. Davies, 28 October 2001

South America

The representative of PANAFTOSA reported two different epidemiological situations in South America: the emergency observed in the Southern Cone and the more usual prevalence in the remainder of the continent. Argentina, Uruguay and the State of Rio Grande do Sul in Brazil, were affected by a panzootic caused by type A virus. Argentina reported a total of 2126 outbreaks between February and late December when the last affected farm was reported. Subtyping conducted by the national laboratory designated the virus involved as A2001. Uruguay reported 2057 outbreaks from almost every Departamento except the Capital. The last outbreak was reported in August 2001. The State of Rio Grande do Sul reported a total of 30 outbreaks, all due to the same FMDV type A, with the last recorded during July. The rest of Brazil suffered only 7 outbreaks in the northeastern and northern areas of the country.

A comparison of the nucleotide sequences of the VP1 regions of representative isolates of type A virus from Argentina, Uruguay and Rio Grande do Sul obtained during 2001 showed that the viruses were very similar to each other but different from type A isolates obtained from Argentina during 2000 (see dendrogram).



Among other countries in South America, Bolivia reported a total of 144 suspect outbreaks of which 59 were caused by type A and 6 by type O. Paraguay reported continued freedom from FMD with vaccination, and has launched a nation-wide vaccination campaign to end in 2003. Colombia reported 1238 suspicious outbreaks: 5 diagnosed as type O and 905 ascribed to vesicular stomatitis virus, both Indiana and New Jersey. Ecuador registered 77 suspicious outbreaks of which 15 were due to type O and 7 to type A. Vesicular stomatitis was diagnosed in 18 outbreaks. Peru recorded 105 outbreaks of vesicular disease but no laboratory confirmations were reported. Chile remained free of the disease and has strengthened border controls because of the situation in Argentina. Guyana also remained free of FMD.

PANAFTOSA, in response to the request of the Ministers of the Southern Cone Countries, coordinated the auditing of the national FMD programs and the epidemiological situation of Argentina, Uruguay, Paraguay, Bolivia, and the states of Rio Grande do Sul, Sta. Catarina and Parana in Brazil. In general, the quality of the systems was good and the recent recrudescences immediately curbed. Nevertheless, the audits observed a deficiency in preventive strategies and the need for strengthening of local activities, community participation and training of personnel.

The cumulative data for samples submitted to the OIE/FAO World Reference Laboratory for FMD during 2001 is given in Table 1.

Table 1: OIE/FAO World Reference Laboratory for Foot and Mouth Disease*
CUMULATIVE REPORT FOR JANUARY - DECEMBER, 2001

Country	No. of samples	FMD virus serotypes							SVDV (a)	NVD (b)
		O	A	C	SAT 1	SAT 2	SAT 3	Asia 1		
AFGHANISTAN	4	-	-	-	-	-	-	4	-	-
ARGENTINA	7	-	7	-	-	-	-	-	-	-
BAHRAIN	8	7	-	-	-	-	-	-	-	1
BHUTAN	5	1	-	-	-	-	-	-	-	4
BRAZIL	1	-	1	-	-	-	-	-	-	-
FRANCE	1	1	-	-	-	-	-	-	-	-
GEORGIA	1	-	-	-	-	-	-	1	-	-
GUINEA BISSAU	2	-	-	-	-	-	-	-	-	2
HONG KONG (PRC)	17	11	-	-	-	-	-	-	-	6
IRAN	59	31	7	-	-	-	-	13	-	8
IRAQ	5	4	-	-	-	-	-	-	-	1
IRELAND	297	6	-	-	-	-	-	-	-	291
ITALY	5	-	-	-	-	-	-	-	5	-
MALAYSIA	6	6	-	-	-	-	-	-	-	-
MAURITANIA	37	5	-	-	-	-	-	-	-	32
NETHERLANDS	4	4	-	-	-	-	-	-	-	-
NIGER	30	9	-	-	-	-	-	-	-	21
OMAN	7	7	-	-	-	-	-	-	-	-
PHILIPPINES	10	8	-	-	-	-	-	-	-	2
PORTUGAL	5	-	-	-	-	-	-	-	-	5
QATAR	6	6	-	-	-	-	-	-	-	-
SAUDI ARABIA	14	12	-	-	-	-	-	-	-	2
SENEGAL	11	1	-	-	-	-	-	-	-	10
TURKEY	17	10	4	-	-	-	-	-	-	3
UGANDA	17	2	-	-	-	-	-	-	-	15
UNITED ARAB EMIRATES	9	4	-	-	-	-	-	-	-	5
UNITED KINGDOM	15307**	1856	-	-	-	-	-	-	-	12027
URUGUAY	1	-	1	-	-	-	-	-	-	-
YEMEN	1	1	-	-	-	-	-	-	-	-
TOTAL	15894**	1992	20	0	0	0	0	18	5	12435

* Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 0NF, United Kingdom (UK)

(a) swine vesicular disease virus

(b) no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected

** Processing of 20 samples was not completed and 1400 were not processed; 3 samples given consecutive reference numbers were processed as one sample; 2 pairs of samples each pair given 2 consecutive reference numbers were each processed as 1 sample.

1367 out of 1565 positive samples tested as original suspension were typed by enzyme linked immunosorbent assay (87%) and the remainder (13%) were typed as tissue culture.

Table 2: The following samples were additionally received by the OIE/FAO World Reference Laboratory for Foot and Mouth Disease in 2001

Country	Sample Year	No. of samples	FMD virus serotypes							SVDV (a)	NVD (b)
			O	A	C	SAT 1	SAT 2	SAT 3	Asia 1		
Abkhazia	2000	1	1	-	-	-	-	-	-	-	-
Argentina	2000	2	2	-	-	-	-	-	-	-	-
Armenia	1998	1	-	1	-	-	-	-	-	-	-
Georgia	2000	1	1	-	-	-	-	-	-	-	-
Hong Kong (Prc)	2000	6	5	-	-	-	-	-	-	-	1
Italy	2000	2	-	-	-	-	-	-	-	2	-
Kyrghizia	1999	1	-	1	-	-	-	-	-	-	-
Mauritania	2000	13	1	-	-	-	-	-	-	-	12
Russia	1995	1	1	-	-	-	-	-	-	-	-
	2000	1	1	-	-	-	-	-	-	-	-
Turkey	2000	1	-	-	-	-	-	-	1	-	-
Uganda	2000	1	-	-	-	-	-	-	-	-	1
Uruguay	2000	1	1	-	-	-	-	-	-	-	-
Total		32	13	2	-	-	-	-	1	2	14

(a) swine vesicular disease virus

(b) no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected

8 out of 10 samples tested as original suspension were typed by ELISA (80%) and the remainder (20%) were typed as tissue culture

NPF, 9 January 2002

Table 3: Reports of Vesicular Disease sent by Member Countries of the Continental Surveillance System, and laboratory diagnoses in South America, 2001*

Country	Reports	FMD O	FMD A	VS - NJ	VS - IND.
Argentina	2126	-	2126	-	-
Bolivia	144	5	32	-	-
Brazil	37	-	37	-	-
Colombia	1238	5	-	658	247
Ecuador	77	15	7	16	2
Paraguay	-	-	-	-	-
Peru	90	-	-	16	4
Uruguay	2057	-	2057	-	-
Venezuela	160	-	5	36	17
Total	5929	25	4264	726	270

* Source: Reports from the countries to the Continental Vesicular Diseases Surveillance System

1.2 Global rinderpest situation

The observer from the FAO pointed out on behalf of the Global Rinderpest Eradication Programme (GREP) that in 2001 the only reported occurrence of rinderpest was in Kenya.

As a result of routine surveillance, two young Africa buffaloes serologically positive to rinderpest virus, were identified in Meru National Park (MNP) in central Kenya during August 2001. Subsequent investigation by the Government Veterinary Service of Kenya and the Kenya Wildlife Service identified some young buffaloes with disease consistent with rinderpest in the northern part of the MNP. Laboratory examination of samples from these animals revealed further serologically positive animals and rinderpest-specific PCR products from lesion material. Sequencing of these products by the World Reference Laboratory (Pirbright, UK) showed them to be representative of lineage 2 virus.

Epidemiological investigation has revealed that the infection dated from some time in July 2001. Circumstantial evidence indicates that the infection was probably introduced into the isolated buffalo population of MNP by cattle from the northeast that entered the Park as a result of drought conditions. However, investigations are not yet complete.

2. Changes to the foot and mouth disease chapter in the *International Animal Health Code*

Further discussion on the changes necessary for the FMD *Code* chapter took place, including consideration of comments made by several countries and consultation with the Code Commission. The draft will be sent to the Member Countries for comment.

3. Surveillance guidelines for foot and mouth disease

The Commission considered an updated draft of guidelines for countries applying for freedom from FMD, either with or without vaccination, and for cases where a country wishes to apply for recovery of its former free status following an outbreak. The draft was approved by the Commission and will be sent to the Member Countries for review with this report; the Guideline will be updated each year to include changes in technology ([Appendix III](#).)

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

4.1. Foot and mouth disease

After consideration of further supporting documents, the Commission will recommend to the International Committee an application from two Member Countries for inclusion in the list of countries/zones free from FMD without vaccination. One of the countries that applied had in the past not provided the OIE with regular and prompt reports of FMD outbreaks. This serious discrepancy was discussed with the delegation from the country. The delegation apologised for its past performance in this regard and that there have been major changes in the Veterinary Services of the country; they assured the Commission that this will not be repeated. It was decided to recommend the application in spite of this lapse. The second application for a FMD free zone without vaccination will be recommended to the International Committee for approval.

Member Countries will now be given an opportunity to comment on the applications and, if there are no objections, the recommendations will be submitted to the International Committee at the May 2002 General Session.

An application was received from the United Kingdom to regain the status of a country free from FMD without vaccination following an outbreak. The documentary evidence and presentation by a delegation from the country was evaluated. The Commission concluded that the UK had met the requirements of the OIE *International Animal Health Code* Article 2.1.1.6 to regain the status as FMD free without vaccination.

4.2. Rinderpest

The Commission considered an application from a Member Country for recognition of four zones within the country for freedom from rinderpest disease. The Commission concluded that three of the zones met the requirements and will be recommended for approval. The Commission also considered the application from a Member Country to be recognised as free of rinderpest infection and concluded that the application met the requirements and approval will therefore be recommended.

All Member Countries will now be given an opportunity to comment on the applications and, if there are no objections, the recommendations will be submitted to the International Committee in May 2002.

5. List of countries free from rinderpest disease

The Commission requested the Central Bureau to compile a list of the countries previously accepted as free from rinderpest disease and to prepare a resolution for the 2002 General Session for adoption by the International Committee.

6. Report of the Ad hoc Group for evaluation of country submissions for recognition of compliance with the *International Animal Health Code* chapter for freedom from bovine spongiform encephalopathy

The report of the Ad hoc Group to evaluate submissions for recognition of Member Countries complying with the provisions of the *Code* for freedom from bovine spongiform encephalopathy was considered. Four paragraphs were modified and the modified version was accepted ([Appendix IV](#)).

7. Joint meeting with the OIE International Animal Health Code Commission

The record of the discussions covered by this item is contained in the report of the meeting of the Code Commission.

8. Epidemiology: Development of Guidelines by Collaborating Centres

The document as presented was approved by the Commission [Appendix V](#).

The observer from the FAO expressed the interest of that Organization in being included as a collaborator.

The working plan proposed for January – December 2002 includes:

- Guidelines for incorporation into the *Code* chapter on epidemiosurveillance;
- A training course in risk analysis for Eastern European countries;
- Review of the training manual on epidemiology produced by the Ad hoc Group (training the trainers);
- Use of the OIE Website for the dissemination of information and training material pertaining to surveillance.

9. Response to remaining recommendations of the OIE/FAO International Scientific Conference on Foot and Mouth Disease

Carcass disposal – Item 2, a, 4: it was proposed that this issue should be addressed by an Ad hoc Group including specialists on FMD, risk analysis, environment impact and animal depopulation.

Transmission due to movement of Equidae – Item 2, a, 8 pertaining to restriction on horses from FMD affected countries: it was agreed that this is already included in the changes proposed to Article 2.1.1.8, dealing with ‘other commodities’.

Trade in animal products – Item 3 related to swill, sausage casings, other offal, gelatin from skin and bones and lanolin: it was agreed that Article 2.1.1.8 already covers these subjects.

10. Changes to the Rift Valley fever chapter in the *International Animal Health Code*

An Ad hoc Group scheduled to meet in February 2002 will address this matter. The conclusions and recommendations will be reviewed electronically by the Commission and attached to this report and included in the annual report of the Commission that will be presented at the General Session in May 2002 for comment but not adoption. The comments that will be received will be considered by the Code Commission and revised chapter submitted to the International Committee in 2003. (The Commission approved the report of the Ad hoc Group and requested that it be included with the report of the Commission meeting [see [Appendix VI](#)].)

11. Global Rinderpest Eradication Programme: FAO/OIE approach to regional rinderpest freedom

The recommendations contained in the discussion document presented to the Commission at its September 2001 meeting will be evaluated during a tripartite meeting (OIE/FAO/WHO) scheduled for February 2002. The matter will also be addressed in September 2002 when the FAO will convene a Global Rinderpest Eradication Programme (GREP) consultation at which the OIE will be represented.

12. FMD Commission Sub-site on the OIE's Web Site

During the meeting the Commission discussed the proposed content of the Commission's sub-site. It was agreed that as from end February when it is anticipated that the sub-site will become functional, the following would be available from the site:

- The objectives and mission of the Commission
- Basic information on the composition of the Commission
- Guidelines and questionnaires relating to applications for recognition of freedom from diseases
- Synopses and reference material for selected scientific issues, emerging diseases in particular, facing Member Countries where such information is otherwise not freely available. It was agreed that the first two aspects that would be covered in this respect are (1) multisystemic wasting syndrome and (2) rinderpest viruses that result in mild disease.

13. Nomination of President of the South-East Asia Sub-Commission for FMD

Dr Gardner Murray (Australia) was nominated for this position.

14. Other matters

- Multisystemic Wasting Syndrome: A Member Country raised the question of the necessity for including a chapter on the syndrome into the *Code*. It was agreed that due to the ubiquitous nature of the causative agent and because of the lack of clarity on all the factors that contribute to occurrence of the syndrome, this was not wise for the moment. However, it was agreed that there is a need to inform Member Countries on the issue. Dr David Paton (Pirbright, UK) will develop a technical note for display on the FMD Commission Web Sub-site (see 12 above).
- The subject of the technical presentation during the 70th General Session in May 2002 will be presented by Dr Paul Kitching and the title will be "FMD diagnostics: requirements for demonstration of freedom from infection".
- Emerging diseases (Resolution XX, 69th General Session): The Commission Members will monitor disease reports and when appropriate assist in providing current information on managing the disease, which can be put on the OIE and Commission web sites.
- Dr Caporale provided the Commission with information about the planned third International Conference on Bluetongue, African Horse Sickness and Related Orbivirus. The conference is planned for the fall of 2002 or spring of 2003 in Italy and will be sponsored by the OIE.
- The next meetings of the FMD Commission will be 25, 26, and 31 May, before and during the OIE General Session, and 25 November to 3 December.

.../Appendices

**MEETING OF THE OIE FOOT AND MOUTH DISEASE
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Agenda

1. Informal review of the world epizootic situation
2. Changes to the foot and mouth disease chapter in the *International Animal Health Code*
3. Surveillance guidelines for foot and mouth disease
4. Review of country or zone submissions for recognition of freedom from foot and mouth disease and rinderpest
5. List of countries free from rinderpest disease
6. Report of the Ad hoc Group for evaluation of country submissions for recognition of compliance with the *International Animal Health Code* chapter for freedom from bovine spongiform encephalopathy
7. Joint meeting with the OIE International Animal Health Code Commission
8. Epidemiology: Development of Standards by Collaborating Centres
9. Response to remaining recommendations of the OIE/FAO International Scientific Conference on Foot and Mouth Disease
10. Changes to the Rift Valley fever *Code* chapter in the *International Animal Health Code*
11. Global Rinderpest Eradication Program: FAO/OIE approach to regional rinderpest freedom
12. FMD Commission Sub-site on the OIE's Web Site
13. Nomination of President of the South-East Asia Sub-Commission for FMD
14. Other matters

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GUIDE TO THE ESTABLISHMENT OR THE REGAINING OF RECOGNITION FOR A FOOT AND MOUTH DISEASE FREE ZONE OR COUNTRY

The following are foot and mouth (FMD) surveillance guidelines for countries or zones applying to the OIE for FMD freedom without vaccination, or for countries or zones applying to the OIE for FMD freedom with vaccination. These guidelines are not intended to exclude other verification strategies, but if an alternative strategy is used, it is essential that it is statistically defensible. These Guidelines are intended to clarify the Standards in chapter 2.1.1. of the *OIE International Animal Health Code*.

Surveillance for FMD may be part of a continuing disease surveillance programme involving regular checks on livestock at all stages of the production chain up to slaughter or export, or it may be a specific programme designed to establish that FMD infection is absent from the national herd in the whole territory or part of it (free zone). The *OIE International Animal Health Code* recognises countries or zones being free of FMD infection, either with or without vaccination.

General Conditions

A surveillance system for FMD must be supported by an efficient and adequately funded state veterinary service with expertise on the epidemiology of FMD, and access to a diagnostic laboratory capable of undertaking FMD diagnosis and serology and a farming community committed to the recognition and reporting of FMD. Training of veterinarians, whether state or private practitioner, and animal health auxiliaries in the clinical recognition of FMD and the collection and dispatch of samples is essential, together with an information programme directed at farmers and other animal workers on the importance of early notification of disease outbreaks. There must be in place a procedure for the rapid transport of samples to the laboratory, and access through the laboratory for onward dispatch of samples to the national, regional or world reference laboratory.

Passive surveillance is an ongoing programme that should be used by all Veterinary Services to monitor for the appearance of disease in the national livestock populations. Active surveillance is specific in respect of confirmation of the suspect presence of a particular disease and quantification of its prevalence or to demonstrate freedom from a disease/infection for a geographically defined area.

An FMD surveillance programme must:

- 1) Respond to observations and reports made by the public, and from state and private veterinarians, and in particular the farmer and animal health workers who have day-to-day contact with the national herds and flocks (passive surveillance). Whether or not FMD is already a notifiable disease, legally obliging immediate notification, farmers must be encouraged to report promptly any clinical disease resembling FMD. They must be supported by government information programmes and the state veterinary service directly or through private veterinarians. All reported suspect cases of FMD should be investigated within 24 hours, and, if still considered suspect, samples must be taken and submitted to the national laboratory by rapid transport. This requires that sampling kits, drugs to sedate animals from which samples are being taken, transport and communications and the wherewithal for the decontamination of equipment and clothing of those involved in disease investigation are made available at all times. Both state and private veterinarians who may be involved with investigating suspect outbreaks of FMD must be familiar with the clinical signs and epidemiology of FMD, and have been trained in sample collection. They should also have access to relevant information on the current FMD status of their own and neighbouring countries, and any particular risk factors, and be able to call for additional advice and help from a specialised government FMD epidemiological team. Laboratory results must be sent as soon as possible to the relevant person in the state Veterinary Service, and to the veterinarian submitting the sample, to encourage future co-operation.

The level of this surveillance can be assessed by the number of farmer and other reports received by the state Veterinary Service and the number of investigations carried out, together with the results of the investigations.

- 2) When relevant, include regular and frequent clinical inspection and serological testing of high risk groups of animals, such as those adjacent to an FMD infected country or zone (for example, bordering a game park in which there is infected wildlife).

These general conditions are required for all Member Countries submitting their annual request for re-confirmation of FMD free status. Evidence of an enhanced surveillance programme is required from Member Countries applying for the first time for recognition of freedom from FMD with or without vaccination.

Countries or zones applying for freedom from FMDV infection where vaccination is not practised

In addition to the general conditions, a Member Country applying for freedom from foot and mouth disease virus (FMDV) infection must show evidence of an effective surveillance programme in which the FMD susceptible population undergoes regular clinical examination, and a statistically significant sample of this population is tested for evidence of FMDV infection. This requires the support of a national or other reference laboratory able to undertake serology for FMDV antibody using an OIE accepted test, as described in the most recent edition of the *OIE Manual of Standards for Diagnostic Tests and Vaccines*, or as updated by a resolution from the International Committee of the OIE between editions of the *Manual*.

In general, the target population of the random sample survey will consist of the susceptible species within the country or zone to be declared free from disease. Countries wishing to show freedom from FMD in which a pig-specific strain of virus had been prevalent should concentrate on sampling the national pig population. In countries in which an African buffalo population is present, this should also be sampled if included in the proposed FMDV infection-free area. The inclusion of other species of wildlife ruminants in a survey is unnecessary unless there is reason to believe that they are involved in the epidemiology of FMD in the region.

The objective of the random sample design is to keep the volume of surveillance work to the minimum consistent with demonstrating the absence of infection at the required level of statistical confidence. The samples must be selected on a random basis during each of the consecutive sampling campaigns; the frequency of the sampling will depend on the epidemiological situation, but should be at least once during the year preceding the application. It must be ensured that every sampling unit has an equal selection probability. The selection of individual sampling units should not affect the probability of selecting any other sampling unit. It must be emphasised that a random selection of the sampling units is absolutely essential; otherwise the required level of statistical confidence cannot be achieved.

In order to provide representative information on the infection status of the target population, the random sample survey ought to be completed within the shortest possible period of time.

The population may be divided into sections (strata) with similar epidemiological conditions within each stratum. Stratification implies that a suitable system of separating the target population into a series of sections or strata from which random samples can be drawn has to be developed. A stratum should be a subpopulation of the total population that is raised using a similar production and husbandry system under similar ecological conditions within geographical or administrative areas (provinces, states, etc.) with a similar risk of infection. Which of these stratification criteria will be most appropriate will depend on the conditions prevailing in the individual country.

During the process of stratification the following two conditions have to be met:

- All sampling units (village, flock or herd depending on farming system) within a particular stratum can be accessed during the survey and have an equal chance of being selected.
- An individual sampling unit is included in only one stratum.

The total number of strata required will depend on the country or zone concerned and additional strata or an increased level of sampling may be applied to areas within a country or zone considered to be at higher risk of FMDV infection. Care should be taken that the number of strata does not exceed the capacity of the field and laboratory service as the required number of random samples will have to be collected from each of the strata.

The number of samples is determined, to a considerable extent, by the number of strata. Hence the number of strata should be kept to a minimum but reflect major epidemiological differences. Further detail may be obtained from suitable epidemiological texts (see references).

If a Member Country wishes to declare a specific zone within the country free from FMDV infection this must be taken into consideration in the stratification process. The basis for the sampling process would then be the population within each zone.

The objective of the random sample survey is the detection of clinical or serological evidence of FMD within the population if it is present at a predetermined prevalence. The probability of detecting evidence of FMD or FMDV infection in a given sample of animals depends on the prevalence of FMDV infection in the population and the size of the sample. Hence, the sample size and expected disease prevalence determine the level of confidence of the result of the survey. The lower the prevalence the larger the sample size has to be in order to achieve a given confidence in the outcome of the survey. It is recommended that a sampling strategy be used to give a 95% probability of detecting evidence of FMD or FMDV infection if it is present in 1% of the primary sampling units. In other words, if at least 1% of herds/flocks are infected with FMD virus, the sample size has to be large enough to give a 95% chance that at least one infected herd/flock will be detected through examination of the random sample of herds/flock.

Clinical surveillance aims at the detection of clinical signs of FMD by close inspection of the mouth, feet and udder of a randomly selected sample. It is essential that all animals within the selected primary sampling unit are examined for signs of FMD. Any herd/flock where suspicious animals are detected is classified as infected until other evidence is produced.

Serological surveillance aims at the detection of antibodies against FMDV. A positive reaction to an FMDV antibody detection test can have four possible causes:

- natural infection with FMDV.
- vaccination.
- maternal antibodies from an immune dam (antibody reaction is usually only up to six months of age in cattle, however, in some individuals and in buffalo calves, maternal antibody can be detected for longer);
- Nonspecific reactions to some other unrelated antigen.

Thus antibodies detected in animals (other than African buffalo) over six months of age and born after a country or region has ceased vaccination should be in response to natural infection and be indicative of circulating virus. This group of animals will be considered eligible as secondary sample units for the purpose of serological surveillance. It may be possible to use serum collected for other survey purposes, but the objective of a statistically valid random survey for the specific presence of FMDV should not be compromised.

If vaccination cannot be excluded as the cause of positive serology, additional testing for the presence of antibodies to the nonstructural protein (NSP) of FMDV could indicate the previous presence of live FMDV.

It is unlikely to find only one or two seroconverted animals in an infected herd/flock. For this reason and for practical as well as economic reasons it is considered acceptable to include only a random sample of animals from each primary sampling unit in the serological surveillance. The sample size has to achieve a 95% probability of detecting seroconverted animals. If a herd is infected after the cessation of vaccination, it is expected that the serological prevalence will exceed the 20% level.

FMDV persists in the pharyngeal region of recovered ruminants for up to 3 years in cattle and nine months in sheep, and therefore oesophageal-pharyngeal (OP) fluid sampling is an additional valuable tool in surveillance for FMDV. OP samples should be collected from herds and flocks selected by positive serology. The collection of OP samples will depend on the availability of collection equipment (e.g. probang), facilities for storing the OP material until testing, and access to a laboratory able to work with live FMDV. Sheep can also be sampled by collecting OP fluid, and a similar sampling strategy can be applied, bearing in mind that the carrier state is shorter in this species.

Staff collecting OP samples should be given specific training on the techniques for the collection, transport and storage of OP fluid. It is essential that the OP fluid is placed in a neutral buffer and immediately frozen in or over liquid nitrogen or solid CO₂ after collection, and kept in this state until thawed in the diagnostic laboratory and placed on susceptible tissue culture (see *OIE Manual of Standards for Diagnostic Tests and Vaccines*).

It is preferable to stratify the sampling frame to reflect the possibility of FMD being present up to three years previously. OP samples should be collected from each group of yearlings, two-year-old and three-year-old cattle/sheep in the selected herds and flocks.

If returning to a suspect herd/flock, it is recommended that a sampling size for each age stratum should be used as indicated above.

The results of the random sample survey will serve as evidence to both to the national authorities and to the OIE that no FMDV infection is present in the country or zone. It is therefore essential that the random sample survey can be audited through clear documentation and the presence of complete records.

Countries or zones applying for freedom from FMD where vaccination is practised

In addition to the general conditions, a Member Country applying for recognition of freedom from FMD with vaccination must show evidence of an effective surveillance programme for clinical disease.

Countries or zones re-applying for freedom from FMDV (where vaccination is or is not practised) following an outbreak

In addition to the general conditions, a Member Country re-applying for freedom from FMDV infection or from freedom from FMD where vaccination is practised must show evidence of an active surveillance programme. Four strategies are recognised by OIE in a programme to eradicate FMDV infection following an outbreak:

- 1) slaughter of all clinically affected and in-contact susceptible animals,
- 2) slaughter of all clinically affected and in-contact susceptible animals and vaccination of at risk animals, and subsequent slaughter of vaccinated animals,
- 3) slaughter of all clinically affected and in-contact susceptible animals and vaccination of at risk animals, without subsequent slaughter of all vaccinated animals,
- 4) vaccination used without slaughter of affected animals or subsequent slaughter of vaccinated animals.

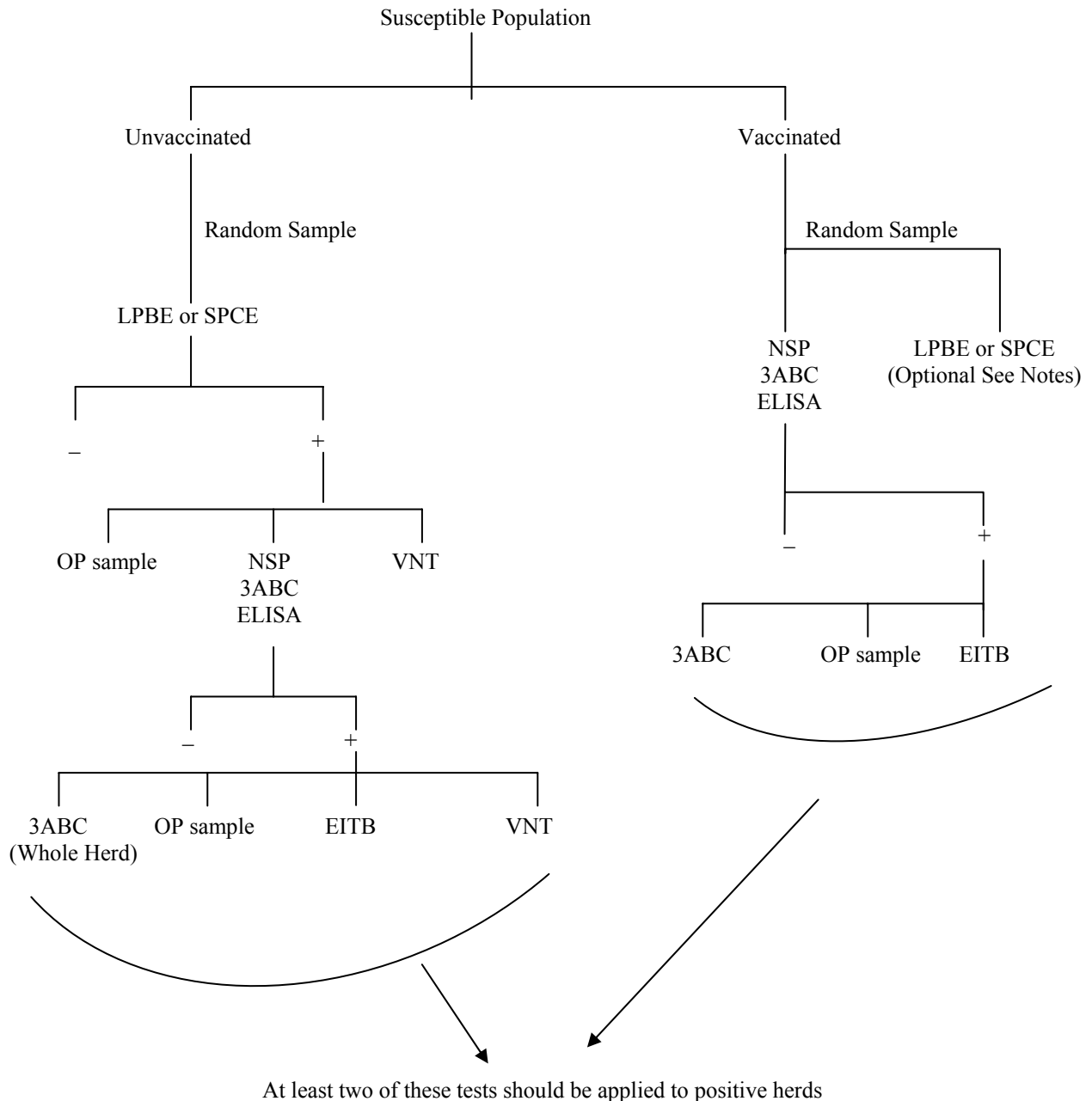
In all circumstances, a Member Country re-applying for freedom from FMDV infection or FMD with vaccination must report the results of an active surveillance programme in which the FMD susceptible population undergoes regular clinical examination. In addition a statistically significant sample, targeted at the susceptible population at risk during the outbreak, would need to be tested for evidence of FMDV infection. The procedures to follow are described above, but when a Member Country has used vaccination to help control the outbreak, and not subsequently slaughtered the vaccinated animals, it may be necessary, under certain circumstances, to test a high proportion of the vaccinated animals using a test for NSP antibodies in order to provide convincing evidence that the FMDV has been eliminated. The time required before an application can be made to the OIE is specified in Article 2.1.1.6 of the OIE *Code*, and depends on the control strategy employed.

The use and interpretation of serological tests (see Fig 1)

The recommended serological tests for FMD surveillance are described in the *Manual of Standards for Diagnostic Tests and Vaccines* (OIE 2000). In unvaccinated populations, the screening can be carried out using the liquid-phase blocking ELISA (LPBE). This is a very sensitive test approaching 100% sensitivity, but it can have a specificity in cattle as low as 95%, and will therefore give up to 5% false positive results using the titre of above 40 as positive. Because the objective of the survey is to discover evidence of infection if it is present, it is acceptable for the purposes of the survey to raise the cut-off value for negative/positive sera. This may still result in false positive results, and these sera should be re-tested by the virus neutralisation test (VNT), in which a titre of 45 or greater is classified as positive. Any animals whose sera are positive by the VNT should be re-sampled

to confirm this status, and if still positive they should be tested for evidence of infection. The remaining animals in the herd/flock should also be tested for the presence of FMDV antibodies, and if found positive, sampled by collection of OP material using a probang cup. Although not a prescribed test, the solid-phase competition ELISA (SPCE) has been shown to have a higher specificity, but similar sensitivity to the LPBE, and may be used in preference to the LPBE.

Fig 1: Schematic representation of laboratory tests for determining evidence of FMDV infection



ELISA: enzyme-linked immunosorbant assay
 LPBE: liquid-phase blocking ELISA
 SPCE: solid-phase competition ELISA
 VNT: virus neutralisation test
 NSP: nonstructural protein(s) of FMDV
 3ABC: NSP antibody test
 EITB: western blot for NSP antibodies of FMDV
 OP: oesophageal-pharyngeal sample

For serological surveillance in countries or zones in which vaccine is, or has been used, the LPBE or SPCE can still be the test of choice in those FMD susceptible species not included in the vaccination programme. Animals that have been vaccinated will have antibodies to the structural proteins of FMD virus, and some may have antibodies to the NSPs, depending on the number of times they have been vaccinated, and the amount of the NSPs present in the vaccine used. However, animals that have recovered from infection with FMD virus will have high levels of antibody to the NSPs. There are eight NSPs associated with the replication of FMD virus, namely L, 2A, 2B, 2C, 3A, 3B, 3C and 3D, and antibodies can be found to all of these in most recovered animal. Some do not persist for more than a few months, and some animals may fail to produce detectable levels to all of them. ELISA tests have been developed to detect 2C and 3ABC antibodies, the former being detectable for up to one year after infection, and the latter for up to two years. A western blot technique (EITB) has also been used to detect the NSP antibodies to 2C, 3ABC, 3A, 3B and 3D; it is particularly specific and sensitive in identifying animals previously infected. All these tests have been validated in cattle.

A class of animal exists, however, that has been infected with FMD virus and could remain carrying the virus without developing detectable antibodies to the NSPs. These are animals, which have received highly potent vaccine and then have contact with the virus during an outbreak, but because of their level of immunity, suppress viral replication and show no evidence of disease. Because the virus does not significantly replicate in these animals, there is little expression of the NSPs and therefore no development of detectable levels of antibodies. However, on a herd basis there are always less protected animals following vaccination, and if these animals are challenged with the virus, they will produce antibodies to the NSPs, and can develop clinical disease. It is therefore important that the NSP antibody test be interpreted by assessing the level of these antibodies in the sera of a representative sample from the whole herd.

There is the option to use the NSP antibody test together with the LPBE or SPCE, particularly in areas where vaccination has been used and virus activity is suspected. LPBE titres or SPCE inhibition higher than would be expected from vaccination alone may suggest FMD virus infection and this can be confirmed by testing for the presence of antibodies to the NSPs, and by taking op samples.

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**OIE AD HOC GROUP FOR EVALUATION OF COUNTRY SUBMISSIONS FOR RECOGNITION AS
COMPLYING WITH THE *INTERNATIONAL ANIMAL HEALTH CODE*
AS BOVINE SPONGIFORM ENCEPHALOPATHY FREE**

(Minutes of the first meeting)

Paris, 7–9 January 2002

The meeting of the Ad hoc Group for evaluation of country submissions for recognition as complying with the *International Animal Health Code* (the *Code*) as bovine spongiform encephalopathy (BSE) free was held at the OIE headquarters from 7 to 9 January 2002. The agenda and list of participants are given as [Appendices 1](#) and [2](#), respectively.

Dr B. Vallat welcomed the Group members and other participants. He gave a background and history of Resolution XV that was approved by the OIE International Committee in May 2001. His opinion is that a dossier must be prepared by the Member Country and be evaluated by the Ad hoc Group and the FMD and Other Epizootics Commission to see if the country complies with the *Code* requirements to be BSE free.

He recommended that the first meeting should focus on a proposed methodology and the Standard Operating Procedure (SOP) for this Ad hoc Group. This methodology and SOP should be provided to the FMD Commission when they meet in January. He stressed the point that this Group should stay within the language and mandate of Resolution XV.

The mandate of the Group, then, was described by Dr J. Pearson as specified by Resolution XV 2001, XVI 1999 ([Appendix 3 and 4](#))

Dr A. Thiermann emphasised the importance of the Group's task and the need for a transparent process for the assessment of the countries.

Dr M. Salman was designated as a chairman for the Group and Dr J. Kreysa as a rapporteur.

Dr Kreysa reviewed the history and the current process of the European Union (EU) - Geographical BSE Risk assessment exercise, in particular practical experience gained.

RECOMMENDATIONS AND PLAN OF ACTION

The Ad hoc Group recommends that each country or zone that wishes to be recognised as complying with the requirements of the OIE *International Animal Health Code* as BSE-free should provide the Director General of the OIE with a dossier that supports this claim. This dossier should be made available in electronic form (at least the country narrative portion of the dossier, see below) as well as hard copy. A list of all applicant countries will be published and regularly updated and the countries that are approved by the OIE International Committee as complying with the *Code* as BSE free will also be published. This dossier has to consistently refer to the same geographic entity and has to include two elements:

1. A concise document addressing all necessary criteria and conditions requested by the *Code* for being recognised as BSE-free. This 'country narrative' must be produced in accordance with [Appendix 5](#) and should be sent to the Director General of the OIE in electronic form, using MS-WORD 2000 or higher.
2. Copies of the detailed supporting documentation on which the above-mentioned document is based. Guidance on this is provided in [Appendix 6](#), Information Items Requested.

On the basis of the 'country narrative', the detailed supporting documentation and any other relevant information that is available, the FMD Commission will then decide if the country complies with all conditions and criteria requested by the *Code* for being recognised as BSE-free. If the FMD Commission determines that the requirements have been met, the request will be submitted to the International Committee for their consideration.

The decision of the FMD Commission will be based on a report that this Ad hoc Group will produce on the basis of the dossier received. In this report, the Ad hoc Group recommends a decision and provides the justification for this recommendation. The Ad hoc Group agrees to the procedure outlined in Resolution XVI (Appendix 4) that in case a country conforms to the requirements of the *Code* for a BSE-free status, the report will be published and access to the country dossier will be provided to OIE-Member States upon request. In all other cases the report of the BSE-Ad hoc Group will be sent to the Country but not published.

In establishing the BSE status of a country the following principles should apply:

1. All incomplete or insufficiently documented information will be, for the purpose of the risk assessment required by the *Code*, replaced by reasonable worst case assumptions.
2. As far as possible information provided by an applicant country will be verified. In case of differences the worst case will be assumed unless other confirmation is provided.
3. As outlined in Resolution XV, 69th OIE General Session, the Member Countries, that have been identified as conforming to the requirements of the *Code*, will annually confirm that their status has not changed and the criteria on which this status was established has not changed. The letters of confirmation will be reviewed by the Foot and Mouth Disease and Other Epizootics Commission.
4. Only the risk relating to the BSE agent in cattle is taken into account until scientific evidence is available on the link between other TSE agents and BSE.
5. The risk to be managed by appropriate measures for the relevant period of time is the risk of BSE being present in the domestic cattle herd of the country. The length of the relevant period of time depends on the level of risk and the effectiveness of the measures taken. It cannot be, however, shorter than the average lifespan of the dairy cattle in the country.

The Ad hoc Group developed a template of the Country Narrative (Appendix 5) that is to be completed by the applicant countries. This template is intended to guide the countries when developing their submission as well as guiding the BSE-Ad hoc Group when evaluating it. The Country Narrative is accompanied by a list of items on which the Ad hoc Group desires detailed information, presented on an annual basis. This Information Items Requested (Appendix 6) includes items that are not directly necessary for completing the template. However, this information is requested in order to provide a more complete context within which the country has to be considered. The Ad hoc Group concluded that ideally annual data should be made available covering the period since 1980 because BSE was already present in the UK and other countries at that time and potentially spreading. However, at least annual data should be made available for the last 10 years.

Finally the Ad hoc Group discussed its operational procedures and concluded as follows:

- The Ad hoc Group agreed on a process for handling applications that is illustrated in Appendix 7. This process starts from the receipt of the application by the OIE Director General. It is anticipated that at least 6 months will be required to complete the entire process for a country.
- All submissions are treated confidentially and no interim results will be disclosed to third parties.
- Members of the Ad hoc Group will report any conflict of interest to the chairman and will not participate in the decisions on the dossier concerned.
- At any stage of the process illustrated in Appendix 7 the Ad hoc Group may decide to request that the applicant country provide additional information.

At the end of the meeting the Ad hoc Group had a discussion on the potential outcome of applying the proposed process. It recognised that in theory a country with a risk assessment clearly demonstrating that there is practically no risk of BSE being present could, due to the additional conditions required by the *Code* in article 2.3.13.1§2-5 and article 2.3.13.2, not qualify for the recognition of a BSE-free status.

One option the Code Commission could consider is to accept that a country with practically no risk of BSE being present would not be required to comply with the additional conditions for 7 years. However, the country, should comply with the measures defined in 2.3.13.1 § 2-5.

**AD HOC GROUP FOR EVALUATION OF COUNTRY SUBMISSIONS FOR RECOGNITION AS
COMPLYING WITH THE *INTERNATIONAL ANIMAL HEALTH CODE*
AS BOVINE SPONGIFORM ENCEPHALOPATHY FREE
Paris, 7–9 January 2002**

Agenda

Section 1 - Risk Assessment

1. Risk assessment for introduction of BSE agent through importation

- 1.1. Hazard definition
- 1.2. Release assessment for import items
- 1.3. Exposure assessment for import items

2. Assessing the risk of recycling and amplification of the BSE agent

- 2.1. Release risk from domestic sources
- 2.2. Exposure assessment relating to domestic sources of the BSE agent

Section 2 - Other requirements as listed in Article 2.3.13.1 § 2-5:

- 1. Awareness programme (Article 2.3.13.1 § 2)**
- 2. Compulsory notification and investigation (Article 2.3.13.1 § 3)**
- 3. BSE surveillance and monitoring system (Article 2.3.13.1 § 4)**
- 4. Examination in an approved laboratory of brain or other tissues collected within the framework of the aforementioned surveillance system (Article 2.3.13.1 § 5)**

Section 3 - Compliance with conditions for a BSE-free status in Article 2.3.13.3

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RESOLUTION No. XV

Recognition of the Bovine Spongiform Encephalopathy Status of Member Countries

CONSIDERING THAT

During the 66th General Session, the International Committee adopted Resolution No. XII, which gave the Foot and Mouth Disease and Other Epizootics Commission a mandate to develop a procedure for presentation at the 67th General Session that will enable the OIE to accept the information presented by the Delegates of Member Countries in support of their declaration that their country is free from bovine spongiform encephalopathy (BSE) in accordance with the provisions of Article 2.3.13.2. (formerly Article 3.2.13.2.). of the *International Animal Health Code* (the *Code*),

In the same Resolution, the Committee asked the Foot and Mouth Disease and Other Epizootics Commission to consider whether the OIE should prepare a list of Member Countries free from BSE according to the provisions of Article 2.3.13.2. (formerly Article 3.2.13.2.). of the *Code*, taking into account the concerns of Member Countries,

At the 68th General Session, the Committee adopted a revised Article 2.3.13.2. describing the conditions under which a country or zone may be considered free from BSE. It also adopted revised Chapters 1.3.1. and 1.3.2. describing risk analysis procedures that would be required to evaluate the status of a country or zone regarding BSE,

Methods for preparing a list of Member Countries that conform to the requirements of the *Code* as free from BSE were discussed at all of the meetings of the Commission that have been held since May 1998 and these discussions were summarised in the reports of the Commission. The Commission concluded that a list could be developed using the OIE risk analysis procedures. The data for this analysis would be supplied in response to a questionnaire that would be completed by Member Countries requesting to be declared to have conformed to the requirements of the *Code* as free from BSE,

A questionnaire in support of this proposal was submitted to the 68th General Session. The International Committee requested the opportunity to make additional comments on the questionnaire and instructed the Commission to resubmit the revised version at the 69th General Session,

The Commission concluded that Member Country assessments must be based on compliance with the *Code*. Therefore, the Commission is not proposing a new version of the questionnaire and will use the requirements in the current version of the *Code* to evaluate compliance. The Commission should provide assistance to Member Countries by providing guidelines on data that should be submitted and aspects that the risk assessment should address.

The Commission concluded that it would not have adequate time to evaluate the submissions during the scheduled meetings of the Commission and that an Ad hoc Group of experts would be needed to evaluate these applications,

The OIE Third Strategic Plan for 2001–2005 also stated that an Ad hoc Group should evaluate applications for freedom from disease and that the Group's findings should be reported to the Foot and Mouth Disease and Other Epizootics Commission for final consideration,

The Ad hoc Group would probably have to meet several times each year and there is inadequate funding in the OIE budget to support the cost of this Group,

Information published by the OIE is derived from declarations made by the official Veterinary Services of Member Countries. The OIE is not responsible for inaccurate publication of country disease status based on inaccurate information or changes in epidemiological status or other significant events that were not promptly reported to the Central Bureau subsequent to the time of declaration of freedom,

THE COMMITTEE

RESOLVES THAT

1. Delegates of Member Countries that wish to be evaluated for conformation with the requirements of the *Code* for BSE free status will submit a formal request to the Director General of the OIE. The Director General will forward this request for consideration by the FMD and Other Epizootics Commission in consultation with the Code Commission, when appropriate.
2. The Commission will develop guidelines to facilitate the submission of data and will outline what should be supplied by Member Countries. These guidelines will be based on the requirements that are in the current version of the *Code*.
3. Delegates of Member Countries should submit information to substantiate their declaration that they conform to the requirements of the *Code* for BSE free status. This submission should include a risk assessment as outlined in the *Code*.
4. In this enquiry, Delegates will be informed that participation in the OIE procedure would be voluntary and its costs, such as examination of documentation by and convening meetings of designated experts, and country missions that may be required by these experts would be entirely defrayed by participating countries regardless of the result of the procedure. However, the OIE Director General is authorised to negotiate a reduced cost for the least developed countries. Responses by Delegates and the recommendation of the Ad hoc Group of experts will be evaluated by the Commission in order to make a proposal to the Committee of the countries and territories that it has evaluated and consider to conform to the requirements of the *Code* as BSE free.
5. Recommendations of the Commission will be submitted to Member Countries for comment as outlined in Resolution No. XVI that was adopted during the 67th General Session of the International Committee.
6. Countries that are approved by the International Committee as having conformed to the requirements of the *Code* as free from BSE will be published in the *Bulletin* each year.
7. Delegates of Member Countries whose countries having conformed to the requirements of the *Code* as free from BSE shall annually reconfirm by letter in November of each year both their status and that the criteria by which their status was recognised remain the same. It is understood that they will immediately notify the Central Bureau if BSE should occur in these countries or zones.

(Adopted by the International Committee of the OIE on 31 May 2001)

RESOLUTION No. XVI

Adaptation of procedure for recognition of freedom from certain animal diseases

CONSIDERING THAT

New or revised Chapters of the *International Animal Health Code* (the *Code*) increasingly include the criteria by which Member Countries or zones therein may be considered to be free of OIE listed diseases,

The International Committee has, for certain diseases, given the Foot and Mouth Disease and Other Epizootics Commission the mandate to both establish procedures and to evaluate information from Member Countries regarding their compliance with the relevant provisions of the *Code* in order to be recognised by the International Committee as free of those diseases,

Code Chapters for some diseases specify periods of time required for both certain veterinary measures and absence of disease outbreaks before a country or a zone may be considered free of those diseases.

The Foot and Mouth Disease and Other Epizootics Commission meets twice yearly and when, after evaluation of submitted documentation and other information from a Delegate, it proposes that a Member Country be recognised as free of a certain disease all OIE Member Countries are given a 60 day consultation period,

OIE recognition of freedom from certain diseases is adopted by a Resolution of the International Committee during its annual General Sessions and both relevant measures taken by Member Countries to assure disease freedom and periods of disease absence according to *Code* provisions often do not coincide with the timing of the procedure described above,

Some Member Countries have requested the Committee to accelerate administrative procedures for OIE recognition of their disease freedom in accordance with *Code* criteria,

THE COMMITTEE

RESOLVES THAT

1. If for a Member Country wishing OIE recognition of its freedom from a certain disease, the date of compliance with provisions of the *Code* for freedom from that disease should occur between the meeting of the Foot and Mouth Disease and Other Epizootics Commission and the following General Session of the International Committee that same year, the Commission is authorised to evaluate in advance documentation submitted by and other information from the Delegate of this Member Country and propose that the Committee recognise its freedom from that disease.
2. Committee recognition following the proposal made by the Commission is contingent upon successful completion of the periods of time specified in the *Code* as notified by the Delegate, and the 60 day consultative period.
3. If the General Session occurs after both the completion of *Code* requirements and the 60 day consultative period, and there are no objections or questions as referred to in paragraph 4, the name of the proposed country or zone will be included in the relevant list submitted to the International Committee during its General Session.
4. If objections which in the opinion of the Commission are technically sound or questions from Member Countries about the proposed disease free status cannot be adequately addressed by the Delegate of the interested country or the Commission during the consultation period, decision of the Committee will be deferred until the General Session of the following year.

(Adopted by the International Committee of the OIE on 20 May 1999)

COUNTRY NARRATIVE

This “country narrative” consists first of a risk assessment, addressing all relevant risk factors and in particular those listed in article 2.3.13.1, § 1. As outlined in the OIE *Code* chapter on import risk analysis (1.3.2), this risk assessment must try to estimate the risk associated with a hazard. For the purpose of this risk assessment, the BSE-agent being present in the cattle population of a country is defined as the hazard to be taken account of.

To this end, the risk assessment has to provide justified answers to the following questions:

- (a) Was there a risk that the BSE-agent was introduced into the country/zone via imports of potentially contaminated MBM¹ or greaves or of potentially infected live cattle ideally for each of the years since 1980 but at least for each of the years since 1992?
- (b) Was there a risk ideally for each of the years since 1980 but at least for each of the years since 1992 that the BSE-agent would have been recycled and amplified or was it likely that the agent would have been eliminated from the system?
- (c) Is there, in the light of the answers given to the two questions, a risk that the BSE agent is currently present in the cattle population in the country?

In addition to the risk assessment the document must address the criteria listed in § 2-5 of article 2.3.13.1 of the *OIE International Animal Health Code*, and clearly explain since when and how the country complies with those criteria. These criteria are:

- 2) on-going education programme for veterinarians, farmers, and workers involved in transportation, marketing and slaughter of cattle to encourage reporting of all cases of neurological disease in adult cattle;
- 3) compulsory notification and investigation of all cattle showing clinical signs compatible with BSE;
- 4) a BSE surveillance and monitoring system with emphasis on risks identified in point 1) above, taking into account the guidelines in Appendix 3.8.3.; records of the number and results of investigations should be maintained for at least 7 years;
- 5) examination in an approved laboratory of brain or other tissues collected within the framework of the aforementioned surveillance system.

....

Finally the report must demonstrate that appropriate measures have been taken for the relevant period of time to manage any risk identified and show that either: a) there has been no *case* of BSE; and either:

- i) the criteria in points 2) to 5) of Article 2.3.13.1. have been complied with for at least 7 years; or
- ii) the criteria in point 3) of Article 2.3.13.1. have been complied with for at least 7 years and it has been demonstrated that for at least 8 years no *meat-and-bone meal* or greaves have been fed to ruminants;

¹ As defined by the OIE

OR

- b) all cases of BSE have been clearly demonstrated to originate directly from the importation of live cattle or bovine embryos/ova, and the affected cattle as well as, if these are females, their last progeny born within 2 years prior to, or after, clinical onset of the disease, if alive in the country or zone, have been slaughtered and completely destroyed; and either:
 - i) the criteria in points 2) to 5) of Article 2.3.13.1. have been complied with for at least 7 years; or
 - ii) the criteria in point 3) of Article 2.3.13.1. have been complied with for at least 7 years and it has been demonstrated that for at least 8 years no *meat-and-bone meal* or greaves have been fed to ruminants;

OR

- c) the last indigenous *case* of BSE was reported more than 7 years ago, the criteria in points 2) to 5) of Article 2.3.13.1. have been complied with for at least 7 years and the feeding of ruminants with *meat-and-bone meal* and greaves derived from ruminants has been banned and the ban has been effectively enforced for at least 8 years.
-

COUNTRY NARRATIVE, SECTION 1

RISK ASSESSMENT, ARTICLE 2.3.13.1

1. Risk assessment for introduction of BSE agent through importation

1.1. Hazard definition

The introduction of the BSE agent into the domestic cattle herd

1.2. Release assessment for import items

Question to be answered:

Is it possible that the BSE agent was imported via live cattle or meat-and-bone meal (MBM) or greaves ideally for each of the years since 1980 but at least for each of the years since 1992?

To answer this questions the importation of MBM, greaves, or feedstuffs that is potentially contaminated with BSE, and of live cattle potentially infected with BSE have to be discussed.

Meat-and-bone meal (as defined by the OIE *International Animal Health Code*)

The solid protein products obtained when animal tissues are rendered, and includes any intermediate protein product other than peptides of a molecular weight less than 10,000 daltons and amino acids.

As far as possible a country should differentiate between different MBM imports. With regard to the relative risk of different types of MBM the following is defined:

- Higher risk MBM: ruminant and mammalian MBM, bone meals, meat meals and greaves.
- Lower risk: blood meal
- Negligible risk: fish meal, poultry meal, feather meals

Imports from any BSE-affected country, i.e. with confirmed domestic BSE cases or with a known risk of BSE being present in the cattle population must be taken into account ideally each of the years since 1980 but at least for each of the years since 1992. They should be summarised in an overview table.

Table 1: Overview of imports from BSE affected countries¹

Year	Import from UK (cattle = n° of breeding/fattening; MBM = tons)	Import from other BSE- affected countries ¹ (cattle = n° of breeding/fattening; MBM = tons)	Import from other countries (cattle = n° of breeding/fattening; MBM = tons)
1980			
1981			
....			
Current year			

¹ countries/zones that have reported domestic BSE cases to the OIE or are known to have a significant risk that BSE is present in their domestic herd.

The relative risk of each of the import items has to be estimated on the basis of the imported numbers/tonnage and this estimate must be explained and supported by documentation. The FMD Commission assumes that in principle any country that has any significant import from a country known to have domestic BSE case since 1980 has a risk that undiscovered BSE cases exist and this represents a non-negligible risk. To estimate the risk of the imports, more detailed account could be taken of the time and magnitude of the items. An example for such an approach is

available in the opinion of the European Community, Scientific Steering Committee of 11/01/02, updating its original GBR opinion of July 2001. This risk increases with the prevalence in the exporting country at the time of export. It may be mitigated by measures taken in the exporting country prior to export. Copies of export certificates must be provided to document such actions, e.g. certifying the composition of the exported MBM.

The risk that the imported BSE agent is released into the domestic system depends on the fate of the imported commodities after they enter the country/zone:

- For breeding cattle potentially infected with BSE, detailed information on the age at and reason for death should be provided (in annex to the report). Otherwise it is assumed that breeding cattle are rendered into feed at the end of their productive life and that they could have approached the end of the incubation period at that time of slaughter.
- For cattle imported for fattening or immediate slaughter, evidence should be provided that no animals were introduced into the domestic breeding stock. Otherwise a certain spill-over is assumed, these animals then represent the same risk as imported breeding cattle.

Table 2: Summary of the release risk resulting from imported BSE agent

(To be completed for the country/zone, please delete the example.)

Year	1980	1981	Current year
Risk of releasing imported BSE				X	X	X	X	
No risk of releasing imported BSE	(X)	X	X					X

1.3. Exposure assessment for import items

Question to be answered:

Is it possible that domestic cattle were exposed to the BSE agent due to imported cattle that were subsequently processed into MBM or due to imported MBM/greaves during any of the years ideally since 1980 but at least since 1992?

The exposure of domestic cattle to imported agents for BSE depends upon:

- Age at slaughter of imported cattle. Cattle aged below 24 months are unlikely to approach the end of the BSE incubation period, even if infected close to birth. Therefore, this age group represents a much lower risk of introducing BSE infectivity into the domestic feed cycle than animals slaughtered at a higher age.
- The use made of SRMs: For BSE in cattle, it is known that the agent is concentrated in certain tissues, particular the CNS. These are the so-called SRMs as defined by the OIE in article 2.3.13.22 of the *Code*. If the SRMs of imported animals are excluded at slaughter, this reduces the risk of releasing the imported BSE agent into the domestic system and hence of exposing domestic cattle. Documentation of the exclusion procedures should be provided.

- The rendering processes applied to materials of imported cattle: Only processes described in the OIE Code (appendix 3.6.3) can reduce BSE infectivity. All other processes cannot guarantee a reduction and no process can ensure complete inactivation.
- The feeding of MBM to cattle: The exposure of domestic cattle to the BSE agent depends primarily on the feeding of cattle with animal-derived proteins other than milk. Evidence should be provided of the use made of imported MBM/greaves and the MBM/greaves produced, particularly from imported cattle
- Cross-contamination of cattle feed: If the imported MBM/greaves were used in feed mills producing non-ruminant feed (incl. pet food) as well as ruminant (cattle) feed, measures taken to control cross-contamination of cattle feedstuffs with the MBM/Greaves in question must be described and information must be provided on the results of such controls. Similarly the risk of cross-contamination during transport, storage and on-farm (misfeeding) has to be addressed and measures taken to reduce it must be described and results of controls should be reported.

On the basis of this discussion the first question can be answered:

For each of the years ideally since 1980 but at least since 1992, was there a risk that the BSE agent was introduced into the cattle population of the country via imports of potentially contaminated MBM or Greaves or of potentially infected live animals and the exposure of domestic cattle to feeds made thereof?

Table 3: Summary of the Import risk assessment, combining the result of the release assessment with the result of the exposure assessment

(To be completed for the country/zone, please delete the example.)

	1980								Current year
Risk due to import		X		X		X			
No risk	X		X		X		X		

2. Assessing the risk of recycling and amplification of the BSE agent

2.1. Release assessment relating to domestic sources of the BSE agent

Question to be answered:

Is it possible that the BSE agent was released into the domestic feed cycle from sources other than imports?

The epidemiological situation concerning animal TSEs other than BSE in the country is regarded, for the time being, as not influencing the BSE risk because (a) no scientific evidence is available on their link to BSE in cattle and (b) the effort required to improve the often scattered and unreliable information cannot be justified.

The risk should be estimated that domestic cattle infected with BSE could be included into the raw material that is rendered into MBM, or greaves for feed production. Points to be addressed include:

- Use made of ‘healthy’ cattle slaughtered normally and offal thereof.
- Use made of emergency slaughtered cattle and offal thereof.
- Use made of cattle found dead.

Note: If an import risk exists or existed in the past, a certain domestic prevalence of BSE has to be assumed. European experience gives reason to assume that this prevalence is higher in adult emergency slaughtered cattle and highest in adult fallen stock.

2.2. Exposure assessment relating to domestic sources of the BSE agent

Question to be answered:

Is it possible that domestic cattle were exposed to the BSE agent due to infected domestic cattle being slaughtered and then being processed into MBM during any of the years since 1992?

The exposure of domestic cattle to domestic BSE depends upon:

- Age at slaughter of domestic cattle: Cattle aged below 24 months are unlikely to approach the end of the BSE incubation period, even if infected soon after birth. Therefore this represent a much lower risk of introducing BSE infectivity into the domestic feed cycle than animals slaughtered at a higher age.
- The use made of SRMs. For BSE it is known that the agent is concentrated in certain tissues, particular the CNS. These SRMs, are defined by the OIE in article 2.3.13.22 of the *Code*. If the SRMs of cattle are excluded at slaughter, this reduces the risk of releasing the agent of BSE into the domestic system and hence of exposing domestic cattle. Documentation of the exclusion procedures should be provided.
- The rendering processes applied to cattle material: Only processes described in the OIE *Code* (appendix 3.6.3) can reduce BSE infectivity. All other processes cannot guarantee a reduction and no process can ensure complete inactivation. Detailed documentation of the rendering processes should be provided.
- The feeding of cattle with MBM. The exposure of domestic cattle to the BSE agent depends primarily of the feeding of cattle with animal derived proteins, other than milk. Evidence should be provided of the use made for MBM/greaves produced from domestic cattle.
- Cross-contamination of cattle feed: If MBM/greaves were used in feed mills producing non-ruminant feed (incl. pet food) as well as ruminant (cattle) feed, measures taken to control cross-contamination of cattle feedstuffs with the MBM/Greaves in question must be described and information must be provided on the results of such controls. Similarly the risk of cross-contamination during transport, storage and on-farm has to be addressed and measures taken to reduce it must be described and results of controls should be reported.
- The risk of MBM reaching domestic cattle is also influenced by the husbandry systems in the country, in particular with regard to production intensity. Of special interest is detailed information on dairy farming. The country should, however, provide information on the structure of the entire cattle population.

On the basis of this discussion the second question can be answered:

Was there a risk that the BSE agent had been introduced into the cattle population of the country via potentially contaminated MBM or Greaves domestically produced from domestic cattle for each of the years since 1980?

COUNTRY NARRATIVE, SECTION 2
OTHER REQUIREMENTS, Article 2.3.13.1 § 2-5

Note: In addition to the description of the content of any legal act provided that should be in one of the three official languages of OIE, a copy of the publication of the official act should be made available

1. Awareness program (Article 2.3.13.1 § 2)

Questions to be answered:

- Is there an awareness programme?
- Who are the target audience?
- What is the curriculum and how long has it been in place?
- Is there a contingency and/or preparedness plan that deals with BSE?

You may provide the manual, supportive documents, or other teaching materials that are used for the awareness programme.

2. Compulsory notification and investigation (Article 2.3.13.1 § 3)

Questions to be answered:

- What is the official definition of a BSE suspect? If this definition has evolved, provide information on all previous versions of the definition.
- What were the date and content of the legal act making notification of BSE suspects compulsory?
- What are the measures in place to stimulate notification, such as compensation payments or penalties for not notifying a suspect?
- What are the consequences for a farmer/veterinarian notifying a suspect if this is (a) not confirmed and (b) confirmed?

Provide records and detailed information (age, reason for and outcome of investigation, method of diagnosis, disposition of carcass, ...) on all suspect cases notified complying with the definition in appendix 3.8.3, Article 3.8.3.2, first paragraph.

3. BSE surveillance and monitoring system (Article 2.3.13.1 § 4)

Questions to be answered:

- Does a specific BSE surveillance programme exist in the country, if so when it has started? Provide details on the methods used and explain how the programme complied with the guidelines in Appendix 3.8.3. of the *Code*.
- What were the results of the investigations (number and differential diagnosis, ..) during at least the last 7 years?

Information should be provided on the animal identification system for cattle and its ability to trace back, if necessary, BSE suspect cases, as well as epidemiologically related animals (offspring, birth cohort, herd mates).

4. Examination in an approved laboratory of brain or other tissues collected within the framework of the aforementioned surveillance system (Article 2.3.13.1 § 5)

Questions to be answered:

- Is the country/zone able to ensure reliable diagnosis of BSE?
- Does the country/zone have or have had access to the necessary laboratory capacity and competence to ensure appropriate handling and examination of brain or other tissues collected within the framework of the aforementioned surveillance system?

- Have all such samples been appropriately handled by these laboratories?
 - Identify the approved laboratories where samples of cattle tissues from the country/zone are examined for BSE. (If this is located outside the country or zone, information should be provided on the cooperation agreement).
 - Discuss the compliance of the laboratories with the *Code* (section 1.1).
 - Describe the methods used to collect samples and analyse them State how long these methods have been in use and if other methods have been used in the last 10 years, they should be described.
 - Provide a copy of the procedures used.
 - Were the examinations conducted in compliance with the OIE *Manual of Standards for Diagnostic Tests and Vaccines*?
 - Describe the capacity and competence of the laboratories with regard to BSE diagnosis, including the training of its staff, the facilities available, and the quality assurance programme in force.
-

COUNTRY NARRATIVE, SECTION 3

COMPLIANCE WITH CONDITIONS FOR BSE FREE STATUS, Article 2.3.13.3

2.3.13.2§1: Was a risk assessment carried out and was it demonstrated that appropriate measures were in place for the relevant period of time to manage any risk identified.

- Measures are appropriate if they reduce the risk of BSE being present.
- The period of time is relevant if the initial risk was reduced by the measures in place at such a rate that the current risk of BSE being present is as close to zero as possible.

Question: Does the country comply with this condition?

(See risk assessment carried out in accordance with section 1 of this template.)

2.3.13.2§2a: Has the country ever notified a BSE case?

If no:

Are the criteria in article 2.3.13.1 § 2-5 complied with for at least 7 years?

If yes: country satisfies the requirements of the OIE Code for a BSE-free status.

If no:

Is BSE compulsory notifiable and investigated in all cattle showing clinical signs compatible with BSE since **at least 7 years**?

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

If yes:

Is it demonstrated that since at least 8 years no MBM or greaves have been fed to domestic cattle?

If yes: Country satisfies the requirements of the OIE Code for a BSE-free status.

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

2.3.13.2.§ 2b: If a BSE case(s) had been reported, have all cases been in imported animals (provide documented evidence)?

If yes:

Has the affected cattle been slaughtered and completely destroyed (specify how) and, if the case was female, has its progeny born within 2 years prior to or after clinical onset of the disease been slaughtered and completely destroyed (how?)?

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

If yes:

Are the criteria in article 2.3.13.1 § 2-5 complied with for at least 7 years?

If yes: country satisfies the requirements of the OIE Code for a BSE-free status.

If no:

Is BSE compulsory notifiable and investigated in all cattle showing clinical signs compatible with BSE since at least 7 years?

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

If yes:

Is it demonstrated that since at least 8 years no MBM or greaves have been fed to domestic cattle?

If Yes: Country satisfies the requirements of the OIE Code for a BSE-free status.

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

2.3.13.2.§ 2c: If a domestic BSE case been reported was it reported more than 7 years ago?

If yes:

Are the criteria in article 2.3.13.1 § 2-5 complied with for at least 7 years?

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

If yes:

Is it demonstrated that since at least 8 years MBM or greaves derived from ruminants has been banned and the ban has been effectively enforced for at least 8 years?

If yes: country satisfies the requirements of the OIE Code for a BSE-free status.

If no: country does not satisfy the requirements of the OIE Code for a BSE-free status.

INFORMATION ITEMS REQUESTED

List of Items on which detailed, annual information is requested covering the period ideally since 1980 but at least since 1992 to the present. The information provided in the template should summarise this information and must be fully supported.

Structure and dynamics of livestock population

(provide information for each period where data were significantly different)

- Number and age of beef and dairy cattle, alive and slaughtered.
- Husbandry systems (beef/dairy, intensive/extensive, productivity of dairy cattle), their share of the total population as well as their geographical distribution.
- Geographical distribution of pig and poultry production.

Surveillance of BSE

Measures:

- Animal identification system and its tracing capacity
- Date since when BSE is compulsory notifiable and criteria for a BSE suspect. Provide copies of the relevant legislation.
- Awareness training (when, how, who was trained)
- Compensation (since when, how much in relation to market value, conditions)
- Other measures taken to ensure notification of BSE suspects
- Specific BSE surveillance programmes and actions (provide summary tables and a summary description)
- Methods and procedures used for the confirmation of BSE cases

Results:

- Number of cattle tested for BSE each year and supply the following: number examined by type (beef/dairy), origin (imported/indigenous) and age; reason for examination (CNS, BSE suspect, BSE-related culling, other) and results of the testing by method (if applicable)
- Incidence of reported BSE cases by year of confirmation, by birth cohort of the confirmed cases, and – if possible – type of the animals

Laboratory capacity:

- Identify the approved laboratories where samples of cattle tissues from the country/zone are examined for BSE. (If this is located outside the country or zone, information should be provided on the cooperation agreement).
- Discuss the compliance of the laboratory with the *Code* (section 1.1).
- Were the methods used to collect and analyse samples, during the last 10 years, in compliance with the OIE *Manual of Standards for Diagnostic Tests and Vaccines*? If not, provide a description of the methods used, including copies of the protocols.
- Describe the capacity and competence of the laboratory with regard to BSE diagnosis, including the training of its staff, the facilities available, and the quality assurance programme in force.

BSE related culling

- Culling schemes, date of introduction & criteria used to identify animals that are to be culled
- Information on animals already culled in the context of BSE

Import and export of Cattle and MBM (MBM is defined in the OIE Code in chapter 1.1)

- Imports and exports of live cattle and/or MBM. Data sources to be used include Veterinary border inspection and customs data of the country/zone.
- Information that could influence the risk of imports to carry the BSE agent (BSE status of the herds of origin of imported cattle, precise definition of the imported animal protein, etc.)
- Use made of the imported cattle or MBM.

Feeding

- Description of the feed industry (e.g. annual output by species of multiple species feed mills, geographic distribution of feed mills and number of feed mills)
- Domestic production of MBM and its use
- Domestic production of composite animal feed and its use
- Potential for cross-contamination of feed for cattle with MBM during feed production, during transport, storage and on-farm, measures taken to reduce and control it, results of the controls

MBM bans

- Dates of introduction and scope (type of animal protein banned for the use in feed in different species, exceptions, etc.)
- Measures taken to ensure and to control compliance
- Methods and results of compliance control

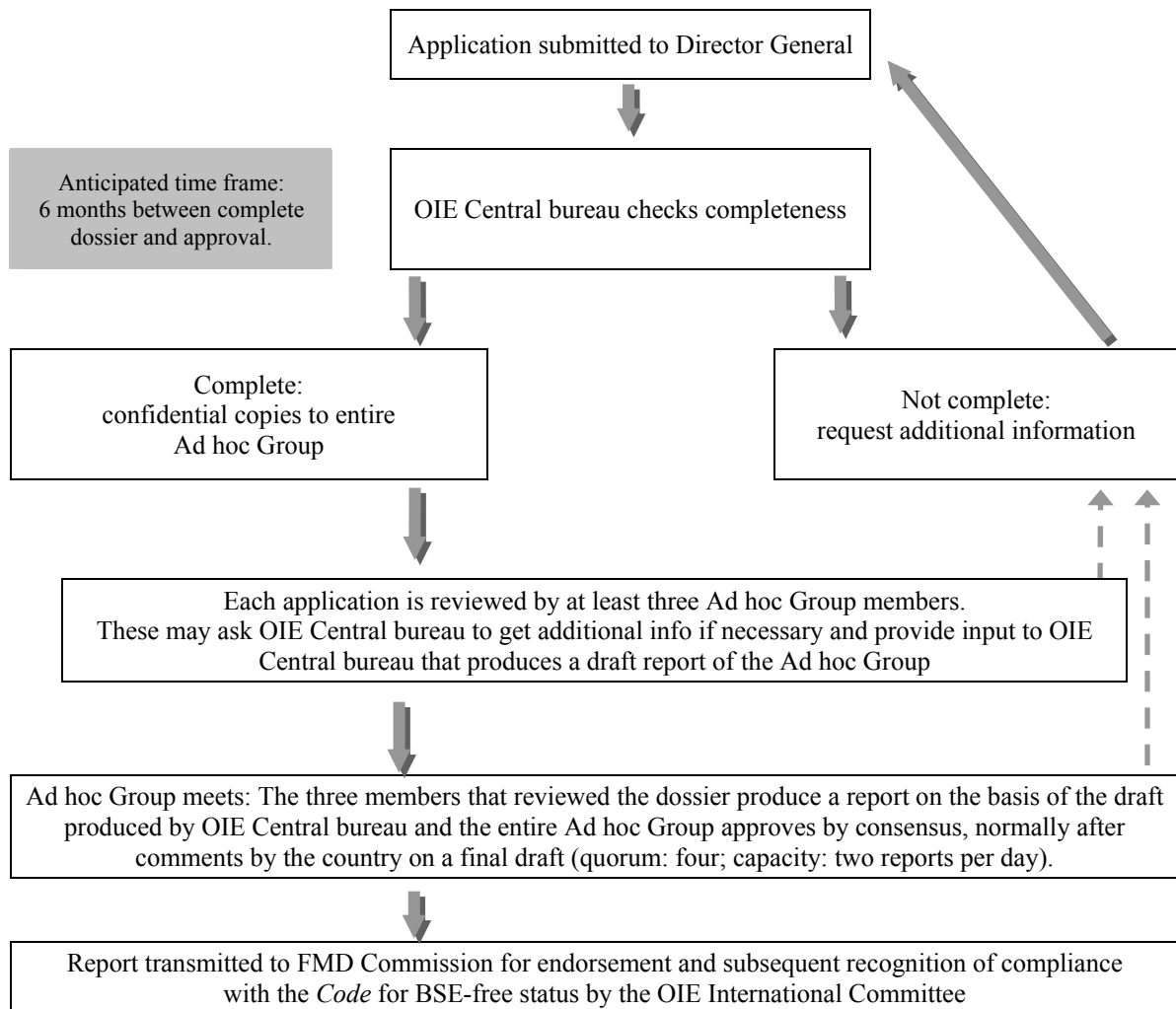
Use made of SRMs (SRMs: Specified Risk Materials)

- Dates of introduction and scope of SRMs' ban, if applicable (definition of SRM, use made of SRM, exceptions from /target animals of the ban, etc.); measures taken to ensure and to control compliance; methods and results of compliance control.
- If no SRMs' ban exists, information on use made of SRMs and documentation how this is controlled.

Rendering

- Raw material used (type: Slaughterhouse offal including SRMs or not, other animal waste, fallen stock, etc.; annual amounts by type of raw material).
- Process conditions applied (time, temperature, pressure; batch/continuous; particle size) and their share of the annual total domestic production. Provide documentation how these conditions were controlled and oversight procedures by regulatory authorities.

PROCESS FOR HANDLING APPLICATIONS



THE INCORPORATION OF EPIDEMIOLOGY AND EPIDEMIOLOGY SURVEILLANCE EXPERTISE IN THE FOOT AND MOUTH DISEASE AND OTHER EPIZOOTICS COMMISSION OF THE OIE

SELECTED CONTENT OF MAIN REFERENCE DOCUMENTS

THIRD STRATEGIC PLAN OF THE OFFICE INTERNATIONAL DES EPIZOOTIES

The **Third strategic plan of the OIE** in point “9.3, Realignment” points out that the Foot and Mouth Disease and Other Epizootics Commission should return to the role of scientific reference for disease control and surveillance methodology. Further it states that the Working Group on Informatics and Epidemiology should be split with the epidemiology component being added to the FMD Commission.

In the Third strategic plan one can read, furthermore, that:

“The OIE should consider establishing virtual teams of experts around the world who can be accessed by technological means rather than solely through face-to-face meetings. If face-to-face meetings are required, their effectiveness could be improved with professional facilitation.”...

“Requirements for specialised Ad hoc Groups have grown substantially over the last few years. This growth reflects the increasing emphasis and need for current scientific knowledge and responsiveness and the expansion of activities associated with aquatic animals and wildlife. It is expected that this demand will continue to grow in both importance and frequency. However, the time availability of the required experts and the cost of travel place an immense burden on the OIE. It is therefore recommended that alternative mechanisms for consulting such Ad hoc Groups be developed to permit increased accessibility while minimising time and financial burdens. One such alternative could be through increased use of electronic technology to conduct virtual meetings with experts. The OIE must develop skills and capabilities to facilitate and manage such meetings and employ the required informatics technology to enable them.”

“Finally, the precise obligations for Reference Laboratories and Collaborating Centres should be reviewed and sharply focused so that obligations are clearly defined.”

To summarise the recommendations of the third strategic plan:

1. The FMD and Other Epizootics Commission should incorporate the epidemiology component that was previously responsibility of the Working Group on Informatics and Epidemiology to assure to the OIE science based epidemiology with particular reference to surveillance methodology;
2. These changes have to take into account:
 - a. The requirements for specialised Ad hoc Groups have grown substantially over the last few years. This growth reflects the increasing emphasis and need for current scientific knowledge and responsiveness
 - b. The use of virtual teams of experts from around the world who can be accessed by technological means rather than solely through face-to-face meetings;
 - c. The obligation for Reference Laboratories and Collaborating Centres should be reviewed and sharply focused so that obligations are clearly defined.

Work Programme for implementing the recommendations of the third strategic plan of the Office International des Epizooties for the period 2001 to 2005

The Work Programme for implementing the recommendations of the third strategic plan of the Office International des Epizooties for the period 2001 to 2005 was approved by the International Committee May 2001. The Work Programme deals with the incorporation of epidemiology expertise within the Foot and Mouth Disease and Other Epizootics Commission.

The Programme states in Section 4.3 that in relation to the Work Plan for guidelines for the prevention, and eradication of animal diseases and zoonoses:

a) *“Preparation of reference guidelines for the Member Countries*

The OIE guidelines for the surveillance and control of existing animal diseases (e.g. rinderpest and bovine pleuropneumonia) will be updated, and others will be created or modified (e.g. foot and mouth disease). Special guidelines concerning wild animal diseases (quarantine measures) or aquatic animal diseases (health risk analysis) will also be published.”

In point 5 of the Work Programme, the restructuring and realignment required to implement the 2001-2005 work programme are specified. In particular in point **5.4 Specialist Commissions** one can read:

- *Foot and Mouth Disease and Other Epizootics Commission*

The Commission will place more emphasis on its role as scientific point of reference concerning the prevention and surveillance of animal diseases, in order to control diseases and determine animal health status.

It will take over the tasks of the Working Group on Informatics and Epidemiology for matters relating to the management of animal health information by the OIE. It will receive support in its task of the specialists of the Working Group on Informatics and Epidemiology, which will be dissolved (see paragraph 5.5).

When Member Countries wish, on a strictly voluntary basis, to have their territory or a zone of their territory recognised as free from certain animal diseases, their candidacy will be examined by an Ad hoc Group comprised of independent consultants designated by the OIE, which will report its conclusions to the Commission. The latter will verify that its conclusions are relevant and conform to the OIE guidelines, and will then be able to issue a final opinion on requests presented to the OIE.

REPORT OF THE OCTOBER 2000 MEETING OF THE OIE WORKING GROUP ON INFORMATICS AND EPIDEMIOLOGY

In the October 2000 meeting of the OIE Working Group on Informatics and Epidemiology the issue of how to incorporate the epidemiology component was discussed at some length. The report of that meeting states:

“The strategic plan recommends that the epidemiological expertise of the Working Group on Informatics and Epidemiology be moved into the FMD and Other Epizootics commission. The Working Group recognises the wisdom of this restructuring. It is appropriate that the Commission be reinforced with epidemiological expertise and Ad hoc Groups provide the mechanism by which this can take place. The issues dealt with by such Groups should arise from issues prioritised by the FMD and Other Epizootics Commission. For this reason, the membership of these Groups should be fluid, with members recruited for specific tasks and disbanded on completion of those tasks. As much as possible these Ad hoc Groups should meet at the OIE Collaborating Centres thus cementing the relationship between the Centres and the Commission (and extending the benefits provided by the Collaborating Centres). It is expected that there will be high turnover within Ad hoc Groups depending on the expertise needed. For such epidemiological expert Ad hoc Groups to work efficiently, members must be prepared to work out of session, and membership in the Groups should be conditional upon this willingness. The group should use the alternative approaches which exist to facilitate such out of session interactions including email, electronic conferences etc., as emphasised in the Strategic Plan.”

With regard to the *Working Group on Informatics and Epidemiology*, it is stated in Section **5.5. Working Groups** of the Work Programme that:

“This Group will be dismantled in 2001. The members of the Group who are experts in epidemiology may be called upon to contribute to the work of the Foot and Mouth Disease and Other Epizootic Commission and the International Animal Health Code Commission (development of risk analysis guidelines). The work of this Group will be oriented towards very specific tasks, such as the development of guidelines for risk analysis or animal disease surveillance methods.

If necessary, one or more computer consultants may be recruited to assist the officials of the Central Bureau or the Regional Representations in this field.”

Furthermore it is suggested to retain a committee to provide informatic advice and directions to the OIE and to assure that necessary animal health information is being collected by the OIE to support the effort of the Commissions.

In Section **5.6. Ad hoc Groups** of the Work Programme it is stated that:

“Any Ad hoc Groups needed to provide information or technical support for the Specialist Commission (in particular the Code Commission) will be formed as required by the Director General.

An Ad hoc Group, the composition of which will change according to the animal disease under study, will be created to examine the dossiers submitted by Member Countries that wish the OIE to recognise their territory, or a part of it, as free from certain animal diseases. This Group will report the results of its analysis to the Foot and Mouth Disease and Other Epizootics Commission, which will verify that the criteria on which the analysis are based comply with the guidelines that it has defined.”

The Working Group on Informatics and Epidemiology also recognised in their report:

1. the wisdom of this restructuring and the appropriateness that the FMD and Other Epizootics commission be reinforced with epidemiological expertise;
2. Ad hoc Groups provide the mechanism by which this can take place;
 - a. The issues dealt with by such Groups should be selected and prioritised by the FMD and Other Epizootics Commission;
 - b. The membership of these Groups should be fluid, with members recruited for specific tasks and the Groups disbanded on completion of specific tasks;
 - c. As much as possible these Ad hoc Groups should meet at the OIE Collaborating Centres thus cementing the relationship between the Centres and the FMD and Other Epizootics Commission (and extending the benefits provided by the Collaborating Centres);
 - d. There will be high turnover within Ad hoc Groups depending on the expertise needed. For such epidemiological expert Ad hoc Groups to work efficiently, members must be prepared to work between scheduled meetings, and membership in the Groups should be conditional upon this willingness;
 - e. There will be a need to use existing alternative approaches to facilitate such interactions including e-mail, electronic conferences, etc.

CRITERIA AND METHODS TO INCORPORATE EPIDEMIOLOGY IN THE OIE FOOT AND MOUTH DISEASE AND OTHER EPIZOOTICS COMMISSION

THE CRITERIA

The criteria that should be taken into account to incorporate scientific reference in epidemiology, with particular reference to surveillance methodology in the Foot and Mouth Disease and Other Epizootics Commission, are:

- I. The expertise in epidemiology and in epidemiological surveillance is growing, reflecting the increasing emphasis and need for current scientific knowledge and responsiveness;
- II. Use of epidemiology and epidemiological surveillance methods and techniques vary greatly, according to many different factors such as culture, disease ecology, veterinary organisation, resources, etc. Therefore, the composition of OIE groups dealing with epidemiology should be such that differences are duly taken into account and fully respected;
- III. It is very likely that the Foot and Mouth Disease and Other Epizootics Commission will also have to provide the expertise for risk analysis that, up until recently, was provided by the Working Group on Informatics and Epidemiology;
- IV. To assure that the best level of competence in the various facets of epidemiology and epidemiological surveillance, many different experts will have to be called upon;
- V. The guidelines of the OIE, both in the terms of scientific content and formal presentation, have to be coherent with one other to avoid contradictions, to avoid lack of homogeneity and the difficulties in reading and interpretation;
- VI. The expertise from which the various bodies of the OIE draw information should, as much as possible, be the same to avoid duplication and conflict in both effort and expenses.

PROPOSED METHODS

It has been suggested that Ad hoc Group(s) should be used to incorporate epidemiology and epidemiological surveillance into the work of the Foot and Mouth Disease and Other Epizootics Commission. The following should be considered when carrying out this suggestion:

- a. Given the need of specific and specialised expertise, the membership of the group will have to be quite fluid with a high turnover, as consequence, there will be a need to have access to a fairly large number of individuals;
- b. A method to guarantee specialised competence together with consistency, continuity and efficiency is not easy with a high turnover of experts. Possible failure could have negative consequences, in particular in terms of lack of consistency. The latter has plagued more than once the Organisation and sometimes reflects upon the texts that have been produced;
- c. To assure an even representation of the different world veterinary cultures and techniques is often very difficult in *Ad hoc Groups* and very often some language groups have distinct supremacy given the practical impossibility of providing adequate interpretation at all times;
- d. Participation should not be limited to meetings but should extend to out of session work. This is very difficult to obtain, in particular when dealing with people working as individual experts within Ad hoc Groups;
- e. It seems unlikely that only one Ad hoc Group would be sufficient to fulfil the needs that one can envisage. The use of more than one group, however, could become rather expensive.

The following is a possible solution to the difficulties listed above that takes into account the input provided by both the Third strategic plan and Epidemiology and Informatics Working Group:

1. Foot and Mouth Disease and other Epizootics Commission will assure the fulfilment of OIE need for scientific reference for epidemiology, with particular reference to surveillance and disease control methodology, as well as risk analysis. The Commission will ensure, in particular, satisfaction of the Code Commission's need relating to epidemiology and epidemiological surveillance;

2. To this end the OIE should call upon the OIE Collaborating Centres to provide regular expertise for the FMD and Other Epizootics Commission. In particular the Collaborating Centres that could provide regular expertise are those for:
 - a. Diagnosis and control of animal diseases in tropical regions;
 - b. Surveillance and control of animal diseases in Africa;
 - c. Animal disease surveillance systems and risk analysis;
 - d. Diagnosis and control of animal diseases in Eastern Europe, Central Asia and Transcaucasia;
 - e. Epidemiology and Organisation of veterinary services in developing countries;
3. The Centres will constitute a core group assuring the basic expertise necessary to carry out assigned tasks, while the input, in case of need of highly specific scientific knowledge will be provided by individual experts called upon by the Director General of the OIE after agreement by the Foot and Mouth and Other Epizootics Commission;
4. The activities will be carried out both through meetings that will take place in the Centres and in Paris concurrently with Foot and Mouth and Other Epizootics Commission and through work between meetings using electronic communication (e.g. e-mail, video conferences, etc.), among Centres and between Centres and other experts;
5. The Foot and Mouth Disease and other Epizootics commission will:
 - i. Identify annually issues that will need to be addressed from an epidemiologic standpoint, carefully identify the scope of the work that needs to be accomplished and the suggested time frame for completion. Such a planned approach will help ensure that the coordination of the experts solicited will not overwhelm the availability of resources from the Collaborating Centres. Recognising that there may be some need to aggregate this expertise for emergency issues;
 - ii. Review the work provided by the Centres and provide feedback as to the value of the input received and how that input will be incorporated into the goals of the OIE;
 - iii. Assure that the Centres can provide their analysis and recommendations in an objective manner, free from political and organisational influences;
 - iv. Assure that the recommendations received from the Centres are science based and applicable, so that all Member Countries will be able to employ and benefit from the proposals;
 - v. Coordinate assigned activities through the direct supervision of the elected members of the Foot and Mouth Disease and Other Epizootics Commission in collaboration, if necessary for specific issues, with an expert facilitator.
6. Centres in particular will:
 - i. Propose to the Director General of the OIE one person responsible for assuring liaison with OIE and the Foot and Mouth disease and other Epizootics Commission. The liaison persons will form a *de facto Ad hoc Group* that will ensure that the best available expertise will be available to advise on the various issues brought to the attention of the OIE Foot and Mouth disease and Other Epizootics Commission by the Director General, by other OIE Specialist Commissions or by Member Countries;
 - ii. Ensure that either all or an adequate representation of the liaison persons will meet regularly in Paris OIE Headquarters at the same time as the Foot and Mouth Disease and Other Epizootics Commission (at least twice a year);
 - iii. Assure the organisation of world wide forum discussions through e-mail conferences and other adequate means, to assure the widest international consensus on proposed standards;
 - iv. Make available both the Collaborating Centres organisational framework and experts for meetings at the OIE Central Bureau and in the various Centres in case of need. Staff and experts from the Collaborating Centre should be available to work between sessions, within reasonable limits;

- v. Make available expertise for surveillance evaluation in relation to Country status assessment. To this end, experts on specific issues/diseases, in particular those from OIE Reference laboratories for specific diseases (FMD, rinderpest, BSE, etc.) should be also made available for the task at the request of the Director General of the OIE and organise working groups made up with experts of both Collaborating centres and Reference laboratories, to assure the best expertise and the largest possible international consensus.

Consideration should be given to the fact that this type of activity will be an increasing responsibility within the scope of the activities of the OIE, and does require increasing commitment and resources from the Collaborating Centres. Therefore, the OIE should discuss with Member Countries, to which the various Collaborating Centres belong from an administrative point of view, to assure that resources are identified and can be used appropriately and proper recognition of the contribution provided.

**REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON RIFT VALLEY FEVER
Paris, 11–13 February 2002**

A meeting of the OIE Ad hoc Group on Rift Valley fever (RVF) was held at the OIE headquarters from 11 to 13 February 2002. The Agenda and List of Participants are given as Appendices 1 and 2, respectively.

Dr Jim Pearson, Head, Scientific and Technical Department, and Dr Alex Thiermann, President of the OIE Code Commission, welcomed the Group. Dr Pearson and Dr Thiermann asked that the Group provide background information about RVF in Africa and suggested that it develop the principles that would be used to develop a revised RVF Chapter for the OIE *International Animal Health Code*. This information will be submitted to the Foot and Mouth Disease and Other Epizootics Commission by e-mail for review and approval. If approved, it will be attached to the report of the Commission and sent to Member Countries for comment. It will also be presented to the International Committee in May for review. The comments received will be used by the Code Commission to develop the final version of the Chapter for the *Code*.

Later in the week the Director General of the OIE, Dr Bernard Vallat, also welcomed the Group members. In his talk, Dr Vallat noted the prominence of RVF within Africa and the Middle East following recent outbreaks in these regions, and the serious socioeconomic significance of the resulting difficulties for trade.

In response to Dr Pearson's and Thiermann's suggestions, the Ad hoc Group prepared the following documents:

Principles for revising the RVF Chapter of the *International Animal Health Code* (Appendix 3):

A set of guiding principles based on the current RVF situation in the world were developed. These are the principles that could be used to draft a new *Code* Chapter on RVF.

Draft RVF Chapter for the *International Animal Health Code* (Appendix 4):

A draft Chapter for the *Code* was written by the Ad hoc Group. This Chapter will not be submitted for approval at the 2002 International Committee meeting. The Code and FMD and Other Epizootics Commissions will review the comments from Member Countries and a revised Chapter will be submitted next year.

.../Appendices

**MEETING OF THE AD HOC GROUP ON RIFT VALLEY FEVER
Paris, 11–13 February 2002**

Agenda

1. Review of reports of previous meeting

- a) Reducing the risk of RVF virus transmission: FAO consultative meeting of experts (Rome 15–16 May 2000)
- b) RVF: Clinical disease surveillance (C.J. Peters – FAO, 15 May 2001)
- c) Factors relevant to risk assessment (F.G. Davies)
- d) RVF – Current status in Africa (F.G. Davies)
- e) RVF epizootic activity – The relevance of ecological factors, farming systems and water conservation practices (F.G. Davies)
- f) The impact of the livestock trade ban in Somalia (Ali S. Hassan – UNDP)
- g) Reducing the risk of RVF (Nairobi, 21–22 June 2001, FAO – UNDP – OAU/IBAR)

2. Review of information prepared by Dr F.G. Davies

3. Review of present *International Animal Health Code* Chapter and *Manual of Standards for Diagnostic Tests and Vaccines* Chapter

4. Preparation of new *International Animal Health Code* Chapter

MEETING OF THE AD HOC GROUP ON RIFT VALLEY FEVER
Paris, 11 – 13 February 2002

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**GUIDING PRINCIPLES FOR REVISION OF THE RIFT VALLEY FEVER CHAPTER,
OIE INTERNATIONAL ANIMAL HEALTH CODE**

Introduction

The current Rift Valley fever (RVF) chapter of the OIE *International Animal Health Code* does not reflect advances in the understanding of the epidemiology of the disease that have been generated in the recent past. It is now clear that in enzootic situations viral activity is often cryptic and does not manifest as clinical disease. However, particular climatic conditions in these situations may result in epizootics that occur periodically at intervals of 2 to more than 30 years. There is evidence that remote sensing data may be used to predict such events. Consequently, there is a need to review the current chapter in the light of new information in order to facilitate safe trade in animals and animal products.

Improvements needed to the existing *Code* chapter

- Provision for distinguishing between enzootic and epizootic situations, enabling safe trade with the former
- Provisions relating to trade in livestock products
- Definitions for:
 - infection-free countries or zones
 - disease-free countries or zones

Principles upon which a new *Code* chapter could be constructed

- Infection with RVF virus can result in devastating disease in both humans and animals
- Countries or zones may be free of RVF infection, or infected with RVF without disease, or infected with RVF with disease
- Historically infected regions are confined to the continent of Africa, Madagascar and the Arabian Peninsula
- Countries outside Africa, Madagascar and the Arabian Peninsula are historically free from RVF
- Infected countries may have endemic but low-grade infection or epizootic/epidemic infection. A country or zone may periodically move from one state to the other
- The virus is maintained and transovarially transmitted by flood-water breeding mosquitoes whose eggs are resistant to desiccation; flooding can result in emergence of infected vector populations
- Understanding of the true epidemiological situation in a country or zone within historically enzootic regions may require several decades of diligent study
- Infected countries or zones are unlikely to become infection-free because of the persistence of virus in the desiccated eggs of the vectors
- The virus may not be detectable in humans, animals or the mosquito vector but still be present in desiccated eggs and the infected vector will emerge following flooding
- Appreciation of the factors responsible for transition from low levels to high levels of viral activity and epidemic disease, particularly flooding

- Predictive, remote-sensing data may assist in determining the factors responsible for transition from low to high levels of viral activity, and therefore assist in determining levels of risk of importation
- In historically infected regions, absence of disease, even over long periods, is not synonymous with absence of infection in a country or zone
- Experience has associated epidemic disease with occurrence of flooding and associated explosive breeding of the Neomelanimon group of *Aedes* spp. (flood-water emerging mosquitoes) followed by amplification of the virus by secondary multiplier mosquito spp.
- Viraemic animals are a potential source of infection for mosquitoes, humans and animals
- The virus occurs in all the tissues of viraemic animals but is rapidly inactivated by *post mortem* pH changes
- Following viraemia, low levels of virus persist in liver, spleen, lymph nodes, bone marrow and foetal tissues but not for more than 30 days
- A consistent observation is that infection with RVF virus occurs in rural but not urban human populations which also implies that the virus is not easily transmitted by animal products
- Viraemic animals pose some public health risk during slaughter but suitably matured carcasses pose no risk to consumers
- There is only one immunological type of the virus and recovered animals are solidly immune to re-infection
- Animals immunised with vaccines recommended by the OIE (*Manual of Standards for Diagnostic Tests and Vaccines*) are also solidly immune 21 days after the administration of the vaccine, and do not pose a risk to importing countries
- The above vaccines are potentially teratogenic and abortigenic and, therefore, pregnant animals should not be vaccinated
- The species of mosquitoes responsible for the amplification of infection during outbreaks may live for up to six months.
- The incubation period is rarely longer than seven days and the period of viraemia is rarely longer than 10 days.

Alternative strategies for minimising the risk of importation of RVF

- import livestock only from historically free countries/zones or countries/zones proven to be free from RVF infection
- import livestock from infected countries/zones during inter-epidemic (disease-free) periods when the risk of importing infected animals is low
- import livestock products as opposed to livestock
- vaccinate livestock 21 days or more before export
- quarantine livestock in a mosquito-proof facility for 30 days before export

CHAPTER 2.1.8

RIFT VALLEY FEVER

Article 2.1.8.1.

For the purposes of this *Code*, the *infective period* for Rift Valley fever (RVF) shall be 30 days.

Standards for diagnostic tests are described in the *Manual*.

The historic distribution of RVF is the African continent, Madagascar and the Arabian Peninsula.

Countries or zones within the historic distribution of RVF or adjacent to those that are historically infected should be subjected to surveillance.

Epidemics of RVF may occur in infected areas after flooding. They are separated by inter-epizootic periods that may last for several decades in arid areas. During inter-epidemic periods the prevalence of infection in humans, animals and mosquitoes can be difficult to detect.

In the absence of clinical disease, the RVF status of a country or zone within the historically infected regions of the world should be determined by a surveillance and monitoring programme (carried out in conformity with the provisions of Chapter 1.3.5.) focusing on mosquitoes and serology of susceptible mammals. The programme should concentrate on parts of the country or zone at high risk because of historical, geographic and climatic factors, ruminant and mosquito population distribution, and proximity to areas where epizootics have recently occurred.

Article 2.1.8.2.

RVF infection-free country or zone

A country or a zone may be considered free from RVF infection when the disease is notifiable in humans and animals throughout the country and either:

- 1) the country or zone lies outside the historically infected regions, or countries or zones adjacent to historically infected regions, or
- 2) a surveillance and monitoring programme as described in Article 2.1.8.1. has demonstrated no evidence of RVF infection in humans, animals or mosquitoes in the country or zone during the past 10 years.

The provisions of the last paragraph of Article 2.1.8.1. may need to be complied with on a continuous basis in order to maintain freedom from infection, depending on the geographical location of the country or zone.

A RVF infection-free country or zone in which surveillance and monitoring has found no evidence that RVF infection is present will not lose its free status through the importation of permanently marked seropositive animals or those destined for direct slaughter.

Article 2.1.8.3

RVF infected country/zone free of disease

A RVF disease-free country or zone is a country/zone that is not infection-free (2.1.8.2) but in which disease has not occurred in man or animals in the last six months.

Article 2.1.8.4

RVF infected country/zone with disease

A RVF infected country/zone with disease is one in which clinical disease in humans or animals has occurred within the last 6 months.

Article 2.1.8.5

Veterinary Administrations of countries shall consider whether there is a risk with regard to RVF infection in accepting importation or transit through their territory from other countries, of the following commodities:

- 1) live ruminants and other RVF susceptible animal species;
- 2) meat and meat products of domestic and wild ruminants.

Other commodities should be considered as not having the potential to spread RVF when they are the subject of international trade.

Article 2.1.8.6.

When importing from RVF free countries or zones, Veterinary Administrations should require:

for ruminants and other RVF susceptible animals

the presentation of an international veterinary certificate attesting that the animals:

- 1) were kept in a RVF free country or zone since birth or for at least 30 days prior to shipment, and
- 2) did not transit through an infected zone during transportation to the place of shipment

Article 2.1.8.7.

When importing from RVF free countries or zones, Veterinary Administrations should require:

for meat and meat products of domestic and wild ruminants

the presentation of an international veterinary certificate attesting that the products are derived from animals which remained in the RVF infection free country/zone since birth or for the last 30 days

Article 2.1.8.8.

When importing from RVF infected country/zone free of disease, Veterinary Administrations should require:

for ruminants and other RVF susceptible herbivores

the presentation of an international veterinary certificate attesting that the animals:

- 1) showed no evidence of RVF on the day of shipment;
- 2) were kept in a RVF infected country/zone free of disease since birth or for the last 6 months providing that climatic changes predisposing to outbreaks of RVF have not occurred during this time;

OR

- 3) were vaccinated against RVF at least 21 days prior to shipment with modified live virus vaccine

OR

- 4) were held in a mosquito-proof *quarantine station* for at least 30 days prior to shipment during which the animals showed no clinical signs of RVF and were protected from mosquitoes between quarantine and *place of shipment*

AND

- 5) did not transit through an infected zone with disease during transportation to the *place of shipment*.

Article 2.1.8.9

When importing from RVF infected countries or zones without disease, *Veterinary Administrations* should require:

for meat and meat products of domestic and wild ruminants

the presentation of an *international veterinary certificate* attesting that:

- 1) the products are derived from animals which:
- a) remained in the RVF disease free country/zone since birth or for the last 30 days
 - b) were slaughtered in an *approved abattoir* and were subjected to ante-mortem and post-mortem inspections for RVF with favourable results
- 2) the carcasses from which the products were derived were submitted to maturation at a temperature above +2°C for a minimum period of 24 hours following slaughter.

Article 2.1.8.10.

When importing from a RVF infected country/zone with disease, *Veterinary Administrations* should require:

for ruminants and other RVF susceptible herbivores

the presentation of an *international veterinary certificate* attesting that the animals:

- 1) showed no evidence of RVF on the day of shipment;
- 2) were vaccinated against RVF at least 21 days prior to shipment with modified live virus vaccine

OR

- 3) held in a mosquito-proof *quarantine station* for at least 30 days prior to shipment during which the animals showed no clinical signs of RVF and were protected from mosquito attack between quarantine and *place of shipment*

Article 2.1.8.11

When importing from a RVF infected country/zone with disease, *Veterinary Administrations* should require:

for meat and meat products of domestic and wild ruminants

the presentation of an *international veterinary certificate* attesting that the carcasses:

1. are from animals which have been slaughtered in an *approved abattoir* and have been subjected to ante-mortem and post-mortem inspections for RVF with favourable results; and
 2. have been fully eviscerated and submitted to maturation at a temperature above + 2°C for a minimum period of 24 hours following slaughter.
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