RAPPORT

COMITÉ EXÉCUTIF

Heelsum,
Pays-Bas,
15 & 16 novembre
2001

de la Commission Européenne de Lutte contre la Fièvre Aphteuse

Soixante-sixième Session

Organisation des Nations Unies pour l'alimentation et l'agriculture

AGA : EUFMD/X/01/1

COMMISSION EUROPEENNE DE LUTTE CONTRE LA FIEVRE APHTEUSE

RAPPORT

de la

Soixante-sixième Session du Comité Exécutif

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ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE
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INTRODUCTION

Le Comité Exécutif de la Commission Européenne de Lutte contre la Fièvre Aphteuse (EUFMD) a tenu sa soixante-sixième Session à Heelsum, Pays-Bas les 15 et 16 novembre 2001.

Membres du Comité présents :

Pf. Werner Zwingmann, Allemagne (Vice-Président)
Dr Yanko Ivanov, Bulgarie
Dr Preben Willeberg, Danemark
Dr Dionisis Panagiotatos, Grèce
Dr Tibor Soós, Hongrie

Observateurs :

Président du Groupe de Recherche
Dr Kris De Clercq, CODA-CERVA-VAR, Ukkel, Belgique

LMR
Dr A.J.M. Garland, Pirbright, Royaume Uni

CE
Dr Alf-Eckbert Füssel, SANCO, Food Safety, EC, Brussels, Belgique

OIE

Dr Jim Pearson, Head Scientific Department, Paris, France

FAO
Dr Yves Cheneau, Chef du Service de Santé animale, AGA, Rome, Italie

France
Dr Francis Geiger, DGAL, Ecole nationale vétérinaire de Toulouse, Toulouse

Pays –Bas
Dr Frederik H. Pluimers, Chief Veterinary Officer, La Haye
Dr Aldo Dekker, Project Leader, Laboratory Vesicular Diseases, Institute for Animal Science & Health, Lelystad

Turquie
Dr Musa Arik, Head of Department, MARA, Ankara

Secrétariat

Dr Yves Leforban, EUFMD, FAO, Rome
Dr John Ryan, EUFMD (APO jusqu'au 3 octobre 2001)
Ms Egiziana Fragiotta, Assistante Administrative, EUFMD, FAO, Rome

Le Président, le Dr. Sanchez Esteban, et les Drs. Marabelli et Celeda n'ont pas pu participer et avaient adressé leurs excuses.

La réunion a été présidée par le Dr. Zwingmann, Vice-Président du Comité Exécutif. Il a été assisté par le Dr Panagiotatos et le Dr Pluimers.

Au nom du Ministère Agriculture, le Dr Fredrik Pluimers, Directeur des Services Vétérinaires des Pays-Bas, a souhaité la bienvenue aux participants. Il a dit que le Ministère de l'Agriculture des Pays-Bas était très heureux que le Comité ait accepté de tenir sa 66ème Session aux Pays-Bas. Il a souligné que les Pays-Bas avaient connu un foyer de fièvre aphteuse au printemps de cette année. En conséquence, la fièvre aphteuse n'est pas seulement un point important à l'ordre de jour des politiciens et des éleveurs, mais elle est aussi devenue un sujet d'intérêt général. La maladie a eu un effet désastreux sur le monde agricole dans les zones touchées, aussi bien que sur les autres activités économiques, telles que le transport, le commerce et les abattoirs. L'industrie touristique, les réserves naturelles et les jardins zoologiques ont subi de lourdes pertes. Il a informé la réunion qu'il expliquerait plus tard dans sa présentation la manière dont la fièvre aphteuse avait été éradiquée aux Pays-Bas. Il a aussi souligné que la réaction de l'opinion publique et des éleveurs aux mesures prises pour lutter contre la maladie dans le présent foyer rendront difficile l'application de ces mêmes mesures à de futurs foyers. Il considère qu'il est temps de changer et a déclaré qu'il ne serait plus accepté qu'un grand nombre d'animaux soient tués sans être utilisés. Le ministre a initié une discussion qui devrait heureusement conduire à des mesures d'éradication plus appropriées qui devraient éviter la destruction en masse des animaux. C'est aussi une des raisons pour lesquelles le Ministère de l'Agriculture des Pays-Bas a pris l'initiative d'organiser conjointement avec le Dr Diouf, Directeur Général de la FAO, une réunion ministérielle à Rome le 6 décembre pour discuter de ce problème. Ce sujet sera aussi discuté au cours de la conférence internationale sur la prévention et la lutte contre la fièvre aphteuse qui se tiendra à Bruxelles les 12 et 13 décembre. Il a exprimé la satisfaction du Ministère des Pays-Bas avec le travail du Comité Exécutif dans ses efforts pour aider les pays dans leur lutte contre la fièvre aphteuse et pour prévenir son introduction en Europe. Il a conclu en souhaitant des discussions fructueuses au cours de la réunion.

Le Pf. Zwingmann a ensuite pris la parole pour remercier individuellement chacun des membres du Comité Exécutif et les représentants de l'OIE, CEE, FAO et LMR. Il a remercié les représentants du pays hôte, le Dr Pluimers et le Dr Dekker, les observateurs de Turquie et de France, et le Dr Ryan d'Irlande et finalement le Dr De Clercq, le Président du Groupe de Recherche. Il a aussi souhaité la bienvenue au secrétaire et à Mme Egiziana Fragiotta qui a succédé à Mme Joan Raftery et qui a été récemment désignée Assistante Administrative par la FAO. Il s'est excusé au nom de ceux qui n'ont pas pu assister, le Dr. Sanchez Esteban, le Président qui n'a pas pu faire le voyage pour des raisons de santé, le Dr. Marabelli, et le Dr. Celeda.

Il a passé en revue l'ordre du jour et informé la réunion que de nombreux points importants seront à discuter. La fièvre aphteuse continue de menacer l'Europe et cela sera examiné un même temps que la situation actuelle au Royaume-Uni et la situation globale à travers le monde. Il a conclu en souhaitant aux participants une bonne réunion et un agréable séjour aux Pays-Bas.

Point 1 - Adoption de l'ordre du jour
L'ordre du jour suivant a été proposé et adopté par le Comité :

Point 1. Adoption de l'Ordre du Jour

Point 2. Situation de la fièvre aphteuse
- Situation de la FA dans le monde
- Actualisation par le LMR
- Actualisation par le Royaume Uni
- Lutte contre la fièvre aphteuse aux Pays-Bas

Point 3. Rapport sur la situation de la fièvre aphteuse et le programme de lutte en Turquie

- Rapport de la Turquie
- Rapport de la réunion du Groupe Tripartite tenue à Sofia, Bulgarie le 12 octobre 2001

Point 4. Activités vers les pays de la CEI et de l'Asie Centrale
- Activités soutenues par la France en Iran et propositions pour une surveillance en Asie Centrale
- Rapport sur le Projet TCP pour la lutte contre la FA en Turquie et en Iran (Projet TCP/INT/8922)
- Suivi de la Zone Tampon dans le Caucase

Point 5. Rapport sur les activités du Groupe de Recherche
- Rapport de la session du Groupe de Recherche à l'Ile de Moen, Danemark 12-14 septembre 2001 et autres activités (Pharmacopée européenne)

Point 6. Finance
- Etats des comptes de l'EUFMD au 30 septembre 2001

Point 7. Autres sujets
- Questions de personnel
- Suivi des propositions de la 34ième Session
- Rapport sur l'exercice de simulation tenue à Brno, du 5 au 7 juin 2001
- 67^{ième} Session du Comité Exécutif de la Commission

Point 8. Adoption du rapport provisoire
- Remarque de clôture

Point 2 - Situation de la fièvre aphteuse

<u>Situation de la fièvre aphteuse dans le monde</u>

Le Dr John Ryan a présenté des cartes sur la situation de la fièvre aphteuse en Europe et sur la situation globale en 2001. Il a souligné le fait que la situation mondiale de la fièvre aphteuse s'était détériorée de manière significative au cours de 2001. Les pays européens tels que le Royaume-Uni, l'Irlande, la France et les Pays-Bas qui étaient restés indemnes pendant une longue période avaient eu à faire face à l'introduction du virus et aux difficultés pour l'éradication de la maladie. D'autres pays qui étaient considérés comme ayant amélioré leur situation par rapport à la fièvre aphteuse comme l'Argentine et l'Uruguay avaient aussi connu

la réintroduction de la maladie ce qui a complètement détruit les avancées obtenues au cours des années récentes et a nécessité de retourner à une politique de vaccination de masse pour contrôler la maladie.

Le Comité a noté que la détérioration de la situation de la fièvre aphteuse était un problème global et qu'il n'y avait pas de réponse rapide et facile à ce problème. Le Comité était d'avis qu'une stratégie globale d'amélioration de la situation dans les régions endémiquement affectées et dans les pays qui avaient des lignes de défense était la manière le plus approprié de progresser. Le Comité pense que, bien que l'approche globale de la lutte contre la fièvre aphteuse soit nécessaire, le problème est si important et si varié selon les continents et régions qu'il n'est pas raisonnable de vouloir le résoudre rapidement. Il a aussi suggéré que des programmes régionaux avec des objectifs appropriés et des phases devraient être établis et financés par les organisations internationales. Le Comité a considéré qu'une réponse raisonnable serait de se concentrer sur des objectifs réalisables c'est-à-dire de continuer à agir pour prévenir l'introduction de la fièvre aphteuse en Europe et d'aider les pays voisins dans leur effort pour une meilleure lutte contre la maladie.

Notant que beaucoup de problèmes semblent apparaître dans les pays voisins de la Chine, que les mouvements internes d'animaux vivants étaient en augmentation dans ce pays du fait de l'intégration rapide de la production animale sur de vastes régions, que la situation de la fièvre aphteuse n'était pas systématiquement rapportée au niveau international et qu'il y avait des preuves directes de l'utilisation de vaccins vivants contre la fièvre aphteuse en Chine, le Comité a conclu que la Chine était un des pays clef pour une future lutte contre la fièvre aphteuse dans la région et dans le monde. La récente adhésion de la Chine à l'Organisation Mondiale du Commerce et les efforts de l'OMC pour libéraliser le commerce en Agriculture peut constituer un risque de diffusion de la maladie, mais c'est aussi une opportunité pour améliorer les relations et la transparence et pour partager l'information et l'expertise dans la lutte contre la fièvre aphteuse avec ce pays.

Le représentant de la FAO a pris la parole pour expliquer le contexte de la réunion ministérielle sur la fièvre aphteuse organisée conjointement par le ministre de l'Agriculture des Pays-Bas et le Directeur Général de la FAO, le 6 novembre 2001. Il a dit, qu'à l'intérieur d'un programme global de lutte contre la fièvre aphteuse tel qu'il est proposé par la réunion, chaque région devrait définir sa propre stratégie. Il était aussi d'avis que le rôle de la Chine deviendra de plus en plus important. La FAO est déjà en contact avec l'administration vétérinaire chinoise et a encouragé la surveillance de la maladie dans cette région. De meilleures conditions ont été créées pour rapporter la maladie suite à l'adhésion de la Chine à l'OMC, ce qui devrait être suivi d'échanges plus actifs avec les autres organisations internationales et en particulier avec l'OIE.

Le Comité a réitéré son support à la vaccination comme un outil important pour lutter contre la maladie dans toutes les régions du monde, mais s'est posé la question de savoir s'il n'existait pas un problème d'inactivation du vaccin dans certaines régions du monde compte tenu de la similarité génétique de récents isolats d'Amérique du Sud et d'Afrique avec les souches vaccinales qui étaient exotiques aux régions affectées.

Actualisation du Laboratoire Mondial de Référence (LMR)

Le Dr Tony Garland a fait rapport des résultats du LMR pour la période allant du 1er septembre au 14 novembre 2001. Des 110 prélèvements reçus, 38 étaient du sérotype O, 4 du

sérotype A et 3 du sérotype Asia 1 alors qu'aucun virus n'a été détecté dans 65 prélèvements. Ce rapport vient en addition du rapport de la réunion de la Commission Fièvre Aphteuse et autres épizooties de l'OIE qui s'est tenue le 24 septembre 2001 à Paris.

Actualisation sur la situation au Royaume-Uni

Le Dr Tony Garland a résumé l'histoire récente de l'épidémie au Royaume Uni et l'implication du laboratoire de Pirbright. Le nombre total de fermes affectées au 15 novembre était de 2030 (2026 en Angleterre et 4 en Irlande du Nord). 3 940000 animaux dans un total de 9075 fermes ont été abattus dont 3.176.000 moutons. Il n'y a pas eu de foyers de fièvre aphteuse depuis le 30 mai en Ecosse, depuis le 12 août au Pays de Galles et depuis le 30 septembre en Angleterre.

Des détails ont été fournis sur le nombre d'échantillons testés par ELISA antigène, par isolement viral sur culture de tissus pour la confirmation du diagnostic. Un total de 15 396 prélèvements de tissus avaient été testés au 14 novembre 2001. Parmi ceux-ci, 1816 étaient positifs pour le type O, avec environ 90 % typés sur le prélèvement d'origine et 10 % après passage sur culture de tissus. La méthode PCR a aussi été appliquée sur certains prélèvements sélectionnés.

Un dendrogramme a été fourni décrivant sous forme d'un arbre phylogènique les relations génomiques entre les souches séquencées qui avaient été collectées à partir de différentes localisations géographiques au cours de l'épidémie du Royaume-Uni et incluant aussi les souches fournies par l'Irlande, la France et les Pays-Bas. Ces dernières comprenaient des données fournies par le Dr Aldo Dekker du laboratoire de Lelystad. Tous les isolats appartenaient à la famille Panasia de type O et ont montré une grande similarité génomique.

Une enquête sérologique massive est en cours. L' ELISA en phase liquide (LPB ELISA) et par compétition en phase solide (SPC ELISA) et la neutralisation virale (VNT) ont tous été utilisés pour la détection des anticorps dans les sérums. Le LPB ELISA a été utilisé pour le screening et le SPC ELISA a été le test principal utilisé pour la sérosurveillance. La validation en cours du SPC ELISA montre une spécificité des 100 % à 50 et 60 % d'inhibition et une sensibilité de 97,5 % à 50 % et 99,8 % à 60 % d'inhibition. La sérosurveillance était principalement basée sur un échantillonnage statistique destiné à obtenir 95 % de confiance pour détecter une infection ayant une prévalence de 5 % (95/5).

Un total de 2 280 243 tests ELISA ont été effectués. Quelques 1 777 066 animaux provenant de 9 968 fermes à l'intérieur de la zone de protection (ZP) de trois kilomètres ont été prélevés et 1 932 382 animaux ont été prélevés dans la zone de surveillance (ZS) entre 3 et 10 km autour des foyers de fièvre aphteuse. Cent pour 100 des fermes dans les deux zones ont été échantillonnées. Cinq laboratoires sont maintenant engagés dans l'analyse des sérums (incluant Pirbright) avec une capacité combinée de quelques 200 000 sérums par semaine. La sérosurveillance a pour objet de rechercher l'étendue de l'infection sub-clinique, de faire des investigations épidémiologiques, de lever les restrictions dues à la maladie, de permettre les mouvements d'animaux et de suivre le repeuplement.

Il a montré les résultats provisoires de la surveillance sérologique jusqu'à présent. Des résultats positifs ont été trouvé dans 402/736 598 (0,05 %) des sérums de 29/9968 (0,29 %) des fermes dans la zone de protection. Les chiffres correspondant pour la zone de surveillance sont de 150/795 803 sérums positifs (0,02 %) dans 6/9233 fermes (0,06 %) tandis que le

61/625107 sérums (0,03 %) de 1/1814 des fermes (0,05 %) ont été trouvés positifs parmi les sérums prélevés pour permettre les mouvements d'animaux. La plupart des sérums provenaient de moutons et de chèvres.

Des cartes ont aussi été présentées montrant le progrès de la surveillance sérologique et la progression de l'assainissement. Une classification des Comtés selon le niveau de risque résiduel de fièvre aphteuse a aussi été montrée. Les restrictions ont été levées dans tous les Comtés à l'exception de 4 zones incluant des parties de la Cumbria, du Northumberland, du Durham, et du North Yorkshire où les prélèvements se poursuivent.

Le Dr Garland a décrit le protocole de repeuplement qui comprend des animaux sentinelles soumis à une inspection clinique 4 fois par semaine et un contrôle sérologique final avant le repeuplement complet de la ferme. Il a rapporté que seulement une suspicion de récurrence de la FA a été rapportée au cours du processus de repeuplement. Il a confirmé, après la réunion, que l'animal suspect détecté avait donné un résultat négatif au deuxième test de même que tous les autres animaux de la ferme.

En réponse à des questions sur le coût du foyer, le Dr Garland a estimé que les coûts directs étaient de l'ordre de 8 à 9 milliards de livres.

L'absence de nouveau foyer depuis le 30 septembre, en même temps que la faible fréquence de détection de sérums avec des anticorps fièvre aphteuse lors de la surveillance sérologique, sont des éléments pouvant conduire à un optimisme raisonnable en matière de contrôle de la fièvre aphteuse au Royaume-Uni en 2001.

Lutte contre la fièvre aphteuse aux Pays-Bas

Le Dr Frédéric Pluimers a fait une présentation sur l'histoire de l'épidémie de fièvre aphteuse aux Pays-Bas en 2001. Dans le but de lutter contre l'épidémie, les Pays-Bas ont utilisé une vaccination suppprésive en anneau avec un vaccin en double émulsion huileuse (puissance >3 PD 50) en plus de l'abattage. Tous les animaux vaccinés ont par la suite été abattus.

Le Comité a félicité les Pays-Bas pour la qualité de leur réponse à la crise et pour l'utilisation appropriée de la vaccination dans la lutte contre la maladie dans leurs circonstances particulières. Le Comité a noté que la vaccination en anneau, quand elle est utilisée dans une zone bien définie, pouvait être un outil très efficace pour arrêter la diffusion de la maladie clinique.

Le secrétaire a noté que l'histoire récente des foyers de fièvre aphteuse en Europe (Albanie, ARY de Macédoine en 1996) et en Afrique du Nord (Algérie en 1999) avait montré que la diffusion de la maladie était stoppée par la vaccination et que le nombre de cas diminuait rapidement dans les zones vaccinés dans un délai de deux semaines après la vaccination. La sérologie pratiquée par la suite avec les tests vis-à-vis des protéines non-structurales avait indiqué que le virus pouvait continuer de circuler de manière sub-clinique à un niveau bas pendant une courte période de temps mais n'avait jamais été responsable d'aucun nouveau foyer dans ces pays.

Le Comité a noté avec regret que beaucoup de fausses informations concernant les règles de l'OIE et de la CE, les performances du vaccin, l'innocuité des produits issus des animaux vaccinés et la logique de la politique d'abattage avaient circulé dans les médias et par

l'intermédiaire de groupes de pression particulièrement au Royaume-Uni. Cela a rendu le choix d'une méthode optimale de contrôle plus difficile par les décideurs dans certains pays.

Quelques exemples de sujets ayant été régulièrement confondus dans les médias :
- les règles de l'OIE et de la CE n'interdisent pas la vaccination ;
- les pays peuvent regagner leur statut indemne de fièvre aphteuse après un an si la vaccination est utilisée pour le contrôle;
- la viande et le lait des animaux vaccinés ne pose aucun risque pour la santé humaine ;
- la vaccination à l'aide de vaccins appropriés arrêtent la maladie clinique rapidement.

Le Comité reconnaît que les règles de l'OIE et de la CE concernant le commerce ont pour objet de minimiser l'impact économique et social des foyers de fièvre aphteuse et que le plein avantage de ces règles reste souvent non exploité.

Conclusions

1. La situation de la fièvre aphteuse à travers le monde au cours de 2001, avec différents sérotypes et souches de virus se propageant au-delà des aires endémiques traditionnelles, reste une source de préoccupation pour l'Europe. Le risque d'introduction de la maladie dans les pays européens reste élevé.

2. Le commerce d'animaux vivants (animaux d'élevage, animaux de compagnie, animaux de zoos et de parcs) et de produits animaux dans la plupart des régions du monde est en augmentation (impliquant des pays qui ne participaient pas jusque-là au commerce international). Ceux-ci conditionnent le risque primaire de diffusion de fièvre aphteuse, particulièrement parce qu'il y a en général une négligence dans les mesures de biosécurité et leurs coûts cachés pour les entreprises individuelles et la société dans son ensemble qui est dirigée par les mesures allant vers une libéralisation du commerce.

3. L'amélioration des routes, des marchés internes et des transports par air et par mer augmentent le risque de diffusion de la maladie.

4. La détérioration des services vétérinaires nationaux dans beaucoup de pays, due aux sous effectifs, à des salaires faibles et des coupes dans les ressources compromet sérieusement leur capacité à découvrir rapidement des maladies exotiques et à y répondre de manière appropriée.

5. La Chine est un pays particulièrement important pour la lutte contre la fièvre aphteuse et un système de notification amélioré dans la région devrait permettre une meilleure coopération internationale dans la lutte contre la fièvre aphteuse.

6. Il existe quelques indications basées sur le séquençage des nucléotides de virus isolés de récentes épidémies en Amérique du Sud et en Afrique qui suggèrent que des vaccins mal inactivés pourraient être à l'origine de certains foyers.

7. La situation au Royaume-Uni paraît prometteuse dans la mesure où il n'y a pas eu de foyer depuis le 30 septembre 2001 et où le nombre de sérums positifs détectés au cours de la sérosurveillance chez les moutons est faible.

8. Les Pays-Bas ont utilisé une nouvelle approche par la lutte contre la maladie et fait un bon usage des possibilités existantes d'utilisation de la vaccination d'urgence basée sur une stratégie de vaccination suppprésive. Ils ont démontré que cette stratégie utilisée pour la première fois en Europe peut être efficace pour arrêter la maladie dans des situations particulières.

9. Au cours des récents foyers il y a eu des déficits de communication entre les services vétérinaires et les vétérinaires individuels, les éleveurs, les représentants des éleveurs, les gouvernements, l'industrie alimentaire et le public en général. Ces déficits de communication ont conduit à une désinformation dont le résultat a été un manque de confiance entre les partenaires et des décisions souvent sub-optimales par les politiciens sous l'influence des groupes de pression.

10. Le développement de la technologie de différenciation des troupeaux vaccinés des troupeaux infectés doit rapidement être intégré dans les règles de l'OIE et de la CE régissant le commerce de manière à autoriser une stratégie de vaccination «vaccinés pour vivre» avec un impact beaucoup plus faible qu'actuellement sur le système de commerce.

Recommandations

1. Les aspects de la structure et de la culture de la production animale impliquant des mouvements importants et des rassemblements d'animaux, conduits par les politiques économiques, sont dangereux pour la diffusion des maladies contagieuses. Une attention spécifique doit être donnée aux mesures de bio sécurité nécessaires pour réduire le risque de dissémination de la maladie et aux mesures pour diminuer ou bannir les mouvements qui ne sont pas nécessaires.

2. La mise en oeuvre des mesures de biosécurité demandera que les services vétérinaires nationaux soient financés et disposent du personnel suffisant pour faire face à ses importantes responsabilités.

3. Tous les pays européens devraient reconnaître le risque persistant de fièvre aphteuse et tenir compte des leçons apprises par les pays qui ont été infectés pour améliorer leur plan d'intervention et les mesures de prévention contre la fièvre aphteuse.

4. Des efforts ont besoin d'être menés pour améliorer la surveillance, la notification et la coopération dans la lutte contre la fièvre aphteuse dans certains pays clefs en particulier en Asie.

5. La consultation entre les partenaires (qui seront impliqués dans l'éradication) et leur formation doit être faite avant tout foyer de fièvre aphteuse, de préférence au cours de la procédure de mise en place des plans d'intervention.

6. Les règles régissant le commerce international des animaux et des produits animaux devraient être révisées pour minimiser les conséquences négatives associées à la vaccination d'urgence, dans la mesure où les tests pour différencier les troupeaux vaccinés des troupeaux infectés sont complètement validés et utilisés de manière adéquate.

Point 3 – Rapport sur la situation de la FA et le programme de lutte en Turquie

Rapport de la Turquie

Le représentant de la Turquie a présenté un rapport sur la situation de la fièvre aphteuse au cours des dix derniers mois (janvier à octobre 2001). Il a déclaré que la situation s'améliorait mais était encore sérieuse avec la présence de type O, Asia 1, et A qui continuent de circuler; 83 foyers ont été rapportés, 49 dus au type O, 32 dus au type Asia 1 et 2 dus au type A.

Aucun foyer n'avait été rapporté depuis mars 1995 dans la région de Thrace quand un foyer du au type O est apparu dans un troupeau de chèvre de la province de Tekirdag en juin 2001. La maladie a été contrôlée par la mise en oeuvre de mesures strictes telles que la quarantaine, la désinfection, l'interdiction des mouvements, le contrôle des marchés des animaux et une vaccination en anneau dans la région. En conséquence la maladie ne s'est pas propagée à d'autres localisations et toutes les mesures restrictives prises dans le foyer ont été levées.

La situation actuelle pour la production de vaccin à l'institut Sap est favorable et la quantité de vaccin est suffisante pour couvrir les besoins de la campagne d'automne. La production de vaccin pour l'année 2001 s'élève à 24,750,000 doses.

Le programme de vaccination pour la Turquie en 2001 s'établit comme suit :

- En Thrace et dans la région de la mer de Marmara (Provinces d'Edirne, Tekirdag, Kirklareli, Istanbul et Çanakkalé, Balikesir, Bursa, Yalova, Kocaeli, Sakarya, Bilecik, Bolu et Duzce) : vaccination bis annuelle de tous les ruminants avec un vaccin trivalent contenant les sérotypes O1 Manisa, Asia 1 et A Aydýn 98 (Iran 96).

- Dans les autres régions de Turquie : vaccination bis annuelle des grands ruminants avec un vaccin trivalent.

Les résultats de la surveillance sérologique, suite à la campagne de vaccination d'automne dans la région de Thrace au cours de l'année 2000 ont aussi été présentés. Le vaccin fièvre aphteuse trivalent (O1BFS, A22 Irak et Asia 1) donné par l'Union Européenne a été utilisé pour la campagne de vaccination d'automne en Thrace. Les résultats du LPB ELISA indiquent une chute dans les titres d'anticorps au 60e jour qui jusqu'à présent n'a pas pu être expliquée.

La couverture vaccinale au cours de la campagne de printemps 2001 a été d'environ 60 % à la fois en Thrace et en Anatolie. La vaccination d'automne en Thrace et en Anatolie a commencé le 1er octobre 2001 et devrait être terminée vers le 15 décembre. 1,1 millions de doses de vaccin trivalent (O1 Manisa, A Iran 96, Asia 1) ont été fournies par l'EUFMD dans le cadre du projet EUFMD-FAO/EC. La couverture vaccinale en Thrace jusqu'à présent a été de 51 % et 15 % respectivement chez les grands et petits ruminants, mais devrait augmenter au fur et à mesure des progrès de la campagne.

Un laboratoire d'épidémiologie moléculaire a été établi au Sap institut. Le système d'identification des bovins (boucle à l'oreille et enregistrement) a commencé le 10 septembre 2001. Le programme de formation pour le système d'identification est terminé. Le contrôle des mouvements d'animaux a été renforcé et certains articles de loi ont été modifiés pour augmenter les amendes en cas de mouvements illégaux.

Rapport de la réunion du Groupe Tripartite tenue à Sofia en Bulgarie le 12 octobre 2001

Le Secrétaire a présenté un rapport sur la réunion tripartite.

La Réunion a recommandé de renforcer la coopération régionale et qu'une mission de l'EUFMD comprenant des représentants de Grèce et de Bulgarie puisse visiter la Thrace turque pour vérifier la situation et l'état d'avancement de la campagne de vaccination avec le vaccin fourni par l'EUFMD/EC. La mission devrait aussi contribuer à définir les raisons de l'apparente réponse sub-optimale au cours de la campagne 2000 en Thrace et proposer des mesures correctives. Finalement la mission devrait contribuer aussi à la préparation d'un projet TCP sur la surveillance des maladies transfrontières dans la région des Balkans (Bulgarie, Grèce et Turquie).

Cette proposition a été acceptée par la Turquie et l'organisation de la mission, qui devrait prendre place au cours de la dernière semaine de novembre, est en progrès.

Une activité particulière concerne la série d'ateliers pour les laboratoires nationaux de la fièvre aphteuse et autres maladies exotiques de la région commencée par la Grèce en 1998. Le prochain atelier devrait se tenir en Bulgarie en mars 2002. Il sera consacré à la comparaison des résultats de l'ELISA 3 ABC dans la région et aux tests ELISA pour le diagnostic de la FA et de la Bluetongue.

Recommandations

- Le Comité a soutenu les conclusions de la réunion tripartite et particulièrement la mission prévue en Thrace à la fin du mois de novembre. La mission comprendra le Secrétaire de l'EUFMD et des experts de la CE, de la Grèce et de la Bulgarie.

- Le Comité encourage la poursuite des ateliers sur la fièvre aphteuse et autres maladies exotiques entre les laboratoires nationaux de la région.

- Une attention particulière devrait être donnée à la séro surveillance en Thrace suite à la campagne de vaccination d'automne et à rechercher la circulation du virus en utilisant ELISA 3 ABC.

- Le Comité recommande qu'une aide continue d'être fournie par la Commission à travers le fonds fiduciaire EC/EUFMD pour la séro surveillance en Bulgarie (jusqu'à un maximum de 5000 dollars US). L'utilisation de l'ELISA 3 ABC est encouragée.

Point 4 - Activités vers les pays de la CEI et d'Asie Centrale

Activités soutenues par la France en Iran et propositions pour une surveillance de la fièvre aphteuse en Asie Centrale

Le Dr Francis Geiger des services vétérinaires de France, a fait rapport de la coopération entre les autorités vétérinaires françaises et iraniennes au cours des cinq dernières années. Il a fait une proposition pour la mise en place d'un système de surveillance fièvre aphteuse en Asie centrale.

Depuis 1996, le Dr Geiger est chargé du programme bilatéral de coopération vétérinaire entre l'Iran et la France. Il a détaillé les différents composants des activités fièvre aphteuse effectuées dans le cadre de ce programme telles que : des périodes de formation en France en épidémiologie et en diagnostic pour les vétérinaires iraniens ; des séminaires scientifiques et techniques organisés en Iran avec des experts français ; l'assistance à la formation de formateurs pour le diagnostic de terrain et la fourniture de réactifs et de kits de diagnostic.

Il a souligné l'intérêt pour l'Europe à mieux suivre et contrôler la fièvre aphteuse à sa source et a présenté les avantages de la mise en place d'un poste avancé d'observation pour la fièvre aphteuse en Asie centrale avec une localisation en Iran, qui est au carrefour des mouvements d'animaux d'est en ouest (vers la Turquie) et vers le Caucase. Ce centre pourrait travailler en étroite collaboration avec les services vétérinaires d'Iran mais devrait rester indépendant.

Le rôle de ce centre de surveillance fièvre aphteuse pourrait être :

- d'analyser les données épidémiologiques recueillies en Iran et dans les pays membres du projet (encore à définir) ;

- d'effectuer une surveillance des souches virales circulant dans la région ;

- d'établir un réseau vétérinaire sentinelle dans les zones frontalières sensibles en Iran ;

- de diffuser les informations collectées aux pays impliqués et aussi aux organisations internationales et à la CE.

Il a proposé de faire une étude de faisabilité au cours d'une mission conjointe CE/FAO/OIE/France qui pourrait avoir lieu vers janvier ou février et soumettre le rapport de cette mission a un Comité international approprié.

Le Comité Exécutif a noté avec intérêt cette proposition pour une action proactive de surveillance de la fièvre aphteuse en Asie centrale en établissant un centre d'observation en Iran. Le Comité a suggéré que la FAO joue un rôle de coordination pour harmoniser les programmes régionaux de lutte actuellement en cours ou proposés.

Recommandations

- La Commission EUFMD soutient la proposition d'organiser au début de l'année prochaine, en coopérations avec les services vétérinaires français, la CE et l'OIE, une mission pour déterminer la faisabilité d'un centre de surveillance fièvre aphteuse pour l'Asie centrale localisé en Iran.

- Le rapport de la mission et le document de projet provisoire devront être soumis aux organisations internationales appropriées, y compris au laboratoire mondial de référence. Des donneurs devront être identifiés.

- La Turquie devrait être associée au projet spécialement dans sa composante laboratoire de manière à ce que la coopération initiée entre l'Iran et la Turquie à travers le PCT de la FAO puisse se poursuivre et être renforcée pour le bénéfice des deux pays et de l'Europe.

Rapport sur le projet TCP/FAO sur la lutte contre la fièvre aphteuse entre la Turquie et l'Iran (projet TCP/INT/8922)

Le Dr Arik a présenté les activités menées entre l'Iran et la Turquie. Il a expliqué qu'un deuxième atelier se tiendrait à l'institut Sap à Ankara orienté vers le contrôle de la qualité du vaccin fièvre aphteuse (à la fois en formulation aqueuse et huileuse) et la lutte contre la fièvre aphteuse sur le terrain. Le projet a jusqu'à présent été très bénéfique pour la Turquie. Il a permis à la fois de renforcer la coopération avec les services vétérinaires d'Iran et d'établir de nouveaux liens entre les instituts de la fièvre aphteuse d'Ankara et de Téhéran.

Recommandations

- La poursuite de la coopération entre la Turquie et l'Iran initiée à travers le projet TCP est encouragée.

Suivi de la zone tampon dans le Caucase

Le Secrétaire a rappelé au Comité les activités effectuées par la Commission dans le Caucase dans le cadre des lettres d'accord signées entre l'ARRIAH et la FAO en 1999 et en 2000. Deux missions FAO/EC/OIE ont visité les pays de la région respectivement en mars 1999 et en juillet 2000.

La mission effectuée en 2000 a conclu qu'en dépit des efforts de l'ARRIAH les résultats du projet ont été sub-optimals, spécialement pour ce qui concerne la surveillance, le diagnostic et la notification de la maladie. Cette situation est principalement liée à la faiblesse des services vétérinaires nationaux et à un manque crucial de ressources. Suite au rapport de cette mission l'EUFMD et son Comité Exécutif ont proposé de suspendre l'aide pour la zone tampon dans la région jusqu'à ce que les recommandations de la mission soient mises en oeuvre.

Une nouvelle requête pour reprendre l'aide à la zone tampon dans le Caucase a été adressée à l'EUFMD par l'ARRIAH, l'Arménie et le Conseil Intergouvernemental pour la coopération vétérinaire de la CEI. Le Secrétaire a demandé au Comité d'examiner cette requête. Après une longue discussion sur le sujet il a été recommandé que :

- L'EUFMD continue à porter attention à la situation dans la région et maintienne des relations étroites avec l'ARRIAH, Vladimir et avec les pays du Caucase qui sont membres de la FAO.

- Une réunion conjointe devrait se tenir entre les organisations internationales (FAO/EUFMD, EC, OIE) en février 2002 pour évaluer la situation et étudier le type d'aide qui devra être fournie. Cette réunion devrait être suivie par une réunion tripartite avec la participation des pays concernés.

Point 5 – Rapport sur les activités du Groupe de Recherche

Rapport de la Session du Groupe de Recherche à l'île de Moen, Danemark, du 12 au 14 septembre 2001 et autre activité (Pharmacopée européenne)

Le Dr. Kris de Clercq a fait rapport de la Session qui s'est tenue à l'île de Moen, au Danemark entre le 12 et le 14 septembre 2001. Les recommandations suivantes ont été faites :

Recommandations

- Des réactifs de référence pour la détection des anticorps et pour la détection du virus devraient être produits pour toutes les souches de virus fièvre aphteuse représentant un haut risque pour l'Europe. Les sérums de référence pour la détection des anticorps devraient provenir à la fois d'animaux vaccinés et d'animaux infectés. Ceci devrait être fait dans le cadre d'un projet impliquant un réseau de laboratoire. Les réactifs de référence déjà produits devraient être inclus dans l'étude collaborative entre les laboratoires.

- Les études collaboratives entre les laboratoires effectués jusqu'à présent par l'EUFMD devraient avoir une haute priorité et être organisées conjointement par l'EUFMD, l'Union Européenne, et l'OIE.

- Les modalités de création d'une banque de réactifs fièvre aphteuse devraient être définies aussitôt que possible.

- L'EUFMD devrait jouer un rôle clef dans les échanges d'information entre les laboratoires, spécialement au cours des périodes de crise.

- Le schéma d'échantillonnage devrait être proposé pour la séro surveillance en déterminant une certaine prévalence d'infection pour rechercher la maladie et une autre prévalence pour déclarer un pays ou une zone indemne d'infection.

- La séro surveillance basée sur l'ELISA NSP est encouragée en Turquie et en Bulgarie

- Une étude détaillée sur les flots de commerce d'animaux et de produits animaux et sur les mouvements de personnes devrait être effectuée en vue d'une future analyse de risque par l'EUFMD.

- Le Groupe de Recherche devrait être associé aux décisions d'amendements de la monographie sur le vaccin fièvre aphteuse de la Pharmacopée européenne et à l'établissement de lignes directrices par l'EMEA.

- Les pays sont encouragés à remplacer le LPBE par le SPCE et à utiliser l'ELISA NSP quand cela est approprié en prenant en compte les limitations de chacun des tests.

- Les tests doivent être développés et validés pour évaluer le degré de purification du vaccin fièvre aphteuse et fournir une assurance d'absence d'anticorps anti – NSP après vaccination. Des critères basés sur ces tests doivent être inclus dans la Pharmacopée européenne.

Les conclusions et recommandations du Groupe de Recherche ont été adopté par le Comité.

Point 6 - Finances

Etat des comptes de l'EUFMD au 30 septembre 2001

Le Dr Yves Leforban a présenté les comptes de la Commission au 30 septembre 2001. Il est maintenant possible, grâce au nouveau système informatique actuellement opérationnel à la FAO, de suivre en détail chacune des dépenses.

En ce qui concerne les contributions dues par les pays membres, le Dr Leforban a informé la réunion que seulement six pays avaient des arriérés. Il a précisé que la Bulgarie avait adressé des preuves du paiement réalisé récemment pour apurer sa dette et que l'Italie avait payé une large partie de ses arriérés. Les Directeurs des Services Vétérinaires des autres pays ont été contactés et ce sujet fera l'objet d'un suivi par le secretariat.

Il a aussi expliqué que la requête de la République Fédérale de Yougoslavie pour devenir membre de la Commission EUFMD est en cours d'examen par la FAO. Des instructions seront données en temps voulu par la FAO au secrétariat de la Commission sur la manière dont les Organisations des Nations Unies traiteront les arriérés de l'ancienne Yougoslavie.

Le Comité a approuvé les états financiers présentés et aucune question supplémentaire n'a été posée.

Il a ensuite présenté l'accord signé en août 2001 entre la CE et la FAO. Au début du mois de septembre une contribution de 850.000 € (équivalent à 773,596 dollars EU) a été reçue de la CE ce qui porte la disponibilité sur ce compte à 1 millions de dollars EU. Une partie de ces fonds a été utilisée pour couvrir les coûts des voyages des participants originaires de l'Union Européenne à la réunion du Groupe de Recherche et à l'atelier de Brno. En ce qui concerne les 6 % correspondant aux frais généraux de fonctionnement, il a informé le Comité que la FAO avait l'intention d'appliquer ce pourcentage aussi aux vaccins, cependant, cela a été contesté par le secrétariat de la Commission et l'exemption de frais pour l'achat de vaccins a été maintenue temporairement.

Point 7 - Autres sujets

Questions de personnel

Le Dr Yves Cheneau a informé la réunion de la nomination par la FAO de Mme Egiziana Fragiotta, annoncée officiellement quelques jours avant la réunion, comme Assistante Administrative auprès de la Commission.

Sa désignation a été approuvée par le Comité.

Il a annoncé que le Dr Yves Leforban quitterait son poste de Secrétaire de l'EUFMD en 2002 et a ensuite expliqué les modalités du processus de sélection pour la désignation de son successeur. La procédure usuelle pour le recrutement utilisé par la FAO sera suivie - procédure adoptée par les pays membres. La version anglaise de la vacance du poste de Secrétaire de l'EUFMD a été préparée et est en cours de traduction en français et en espagnol. Une copie de la version provisoire en anglais a été fournie aux membres du Comité.

Le Comité a accepté la version provisoire de la vacance de poste.

Selon la Constitution de l'EUFMD, le Secrétaire est désigné par le Directeur Général de la FAO. Cependant, le Comité Exécutif, en particulier le Président et les deux vice-Présidents seront totalement impliqués dans le processus de sélection. L'ensemble de la procédure peut ne pas être terminé avant que le Dr Yves Leforban ne quitte son poste. Cependant la continuité des activités de la commission sera assurée et un consultant sera recruté si cela est nécessaire.

Le Professeur Zwingmann a demandé que le Comité Exécutif soit tenu informé des progrès réalisés si possible à la prochaine réunion du Comité provisoirement fixée en avril 2002 à Budapest. Le Dr Cheneau a assuré la réunion de fournir toutes informations pertinentes au moment nécessaire. Il a encouragé tous les présents à aider à diffuser l'information sur la vacance de poste dès qu'elle sera publiée.

Le Dr Yves Leforban a alors pris la parole pour confirmer son départ. Il a réaffirmé qu'il partait pour des raisons personnelles. Il a souligné qu'il avait beaucoup apprécié son travail avec la Commission et qu'il continuerait de remplir ses fonctions jusqu'au terme de son mandat avec la FAO. Il a l'intention de retourner au Ministère en France, la date exacte de son départ n'a pas encore été fixée. Il a aussi indiqué qu'il fera de son mieux pour assurer une transition harmonieuse avec le nouveau secrétaire. Il a particulièrement apprécié la coopération avec l'OIE et la CE et il a le sentiment que la Commission devra continuer de travailler en étroite collaboration avec eux.

Le Pf. Zwingmann en tant que Président a félicité le Dr Leforban pour son excellent travail comme secrétaire de la Commission.

Le Dr Leforban a ensuite indiqué que le Dr John Ryan avait quitté son poste d'expert associé (APO) de la FAO le 3 octobre 2001. Il l'a remercié pour sa contribution importante aux activités de la Commission en particulier pour ce qui concerne la technologie de la formation, et sa contribution à l'atelier sur l'analyse de risque et au PCT Iran/Turquie. Il a été extrêmement actif au cours de ces trois années passées à la FAO et le Comité lui a souhaité plein succès pour ses activités futures.

Pour rester sur le sujet des APOs, le Dr Leforban a informé la réunion que l'Espagne avait offert de fournir un APO à la Commission à la fin de l'année. La sélection par l'Espagne est en cours en ce moment. Le Directeur des Services Vétérinaires d'Irlande a aussi informé le secrétariat de son intérêt pour remplacer le Dr Ryan ce qui signifie que la Commission pourrait avoir deux APOs. Si tel était le cas, il a suggéré qu'un des APOs pourrait concentrer son travail sur les activités générales de la Commission tandis que l'autre travaillerait à un niveau plus global de l'information sur la FA.

L'idée serait de développer en conjonction avec les autres programmes sur la fièvre aphteuse de la FAO et AGAH la base de données sur la fièvre aphteuse commencée par le Dr Ryan. L'affectation de deux APOs au secrétariat de la Commission serait extrêmement bénéfique.

Suivi des propositions de la 34ème session

Le Secrétaire a informé le Comité des progrès faits dans l'application des recommandations de la 34e session :

- Les modifications du chapitre fièvre aphteuse de l'OIE est en cours par la Commission Fièvre Aphteuse et autres Epizooties de l'OIE pour inclure le terme «infection fièvre aphteuse» au lieu de simplement «fièvre aphteuse». Des lignes directrices pour la surveillance sont également en préparation par l'OIE. Le Secrétaire a été étroitement associé aux discussions sur le sujet dans le cadre de la Commission Fièvre Aphteuse et autres Epizooties de l'OIE.

- Une aide a été apportée à la Thrace pour la vaccination et la séro surveillance en utilisant le test ELISA 3 ABC.

- Les questionnaires sur la destruction des carcasses et sur les plans d'intervention dans les pays membres reçus par le secrétariat au moment de la 34e session sont toujours à analyser. Les lignes directrices pour la vaccination d'urgence telles que demandées par le Comité sont aussi à préparer.

Rapport sur l'exercice de simulation tenue à Brno, du 5 au 7 juin 2001

Le Dr John Ryan a fait une présentation préparée par le Dr Léos Celeda, qui n'a pas pu assister, sur l'exercice de simulation tenu à Brno, république Tchèque. Cet atelier a impliqué quinze pays d'Europe centrale et les pays baltes. Des experts européens de cinq pays de l'Union Européenne ont contribué à l'atelier qui a été un succès.

Le Comité a félicité le Dr Celeda, le gouvernement tchèque et les experts européens qui ont accepté d'organiser et de participer à cet atelier. Il s'est avéré très utile pour les pays membres de l'EUFMD d'Europe de l'est.

67ième Session du Comité Exécutif de la Commission

Le Dr Tibor Soós a indiqué que le gouvernement hongrois souhaitait accueillir la 67e session du Comité Exécutif en Hongrie. Le lieu de la réunion est encore à décider cependant il a suggéré Budapest pour faciliter le transport depuis et vers l'aéroport. Il a suggéré aux membres du Comité de lui fournir d'autres alternatives si souhaité. Il a suggéré les dates du 25 et 26 avril 2002.

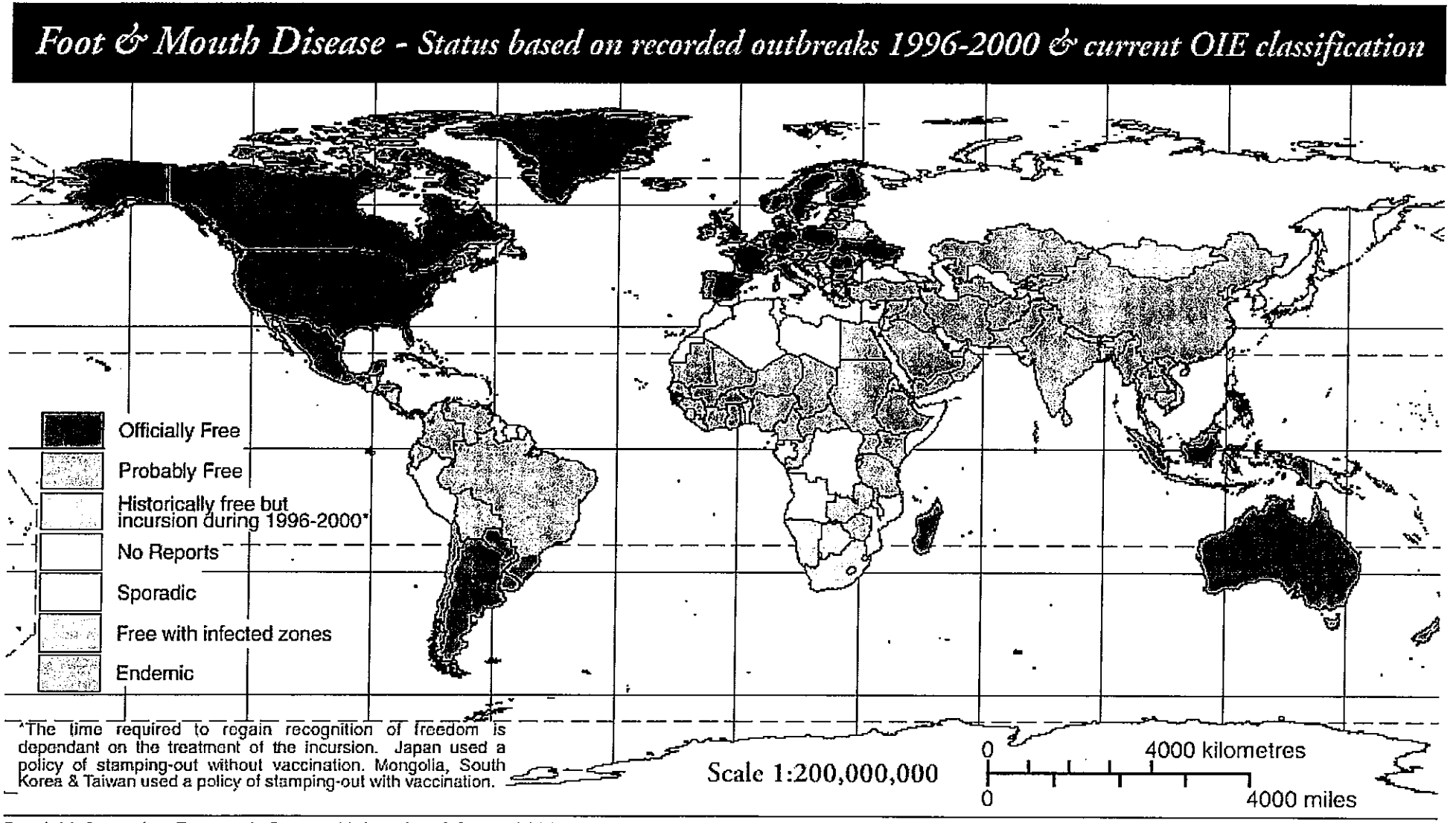
Point 8 - Adoption du rapport provisoire

Le rapport a été adopté sujet aux modifications acceptées par le Comité.

Remarque de clôture

Le Pf. Zwingmann a remercié les participants pour leur contribution et pour la qualité de leur travail au cours de cette réunion.

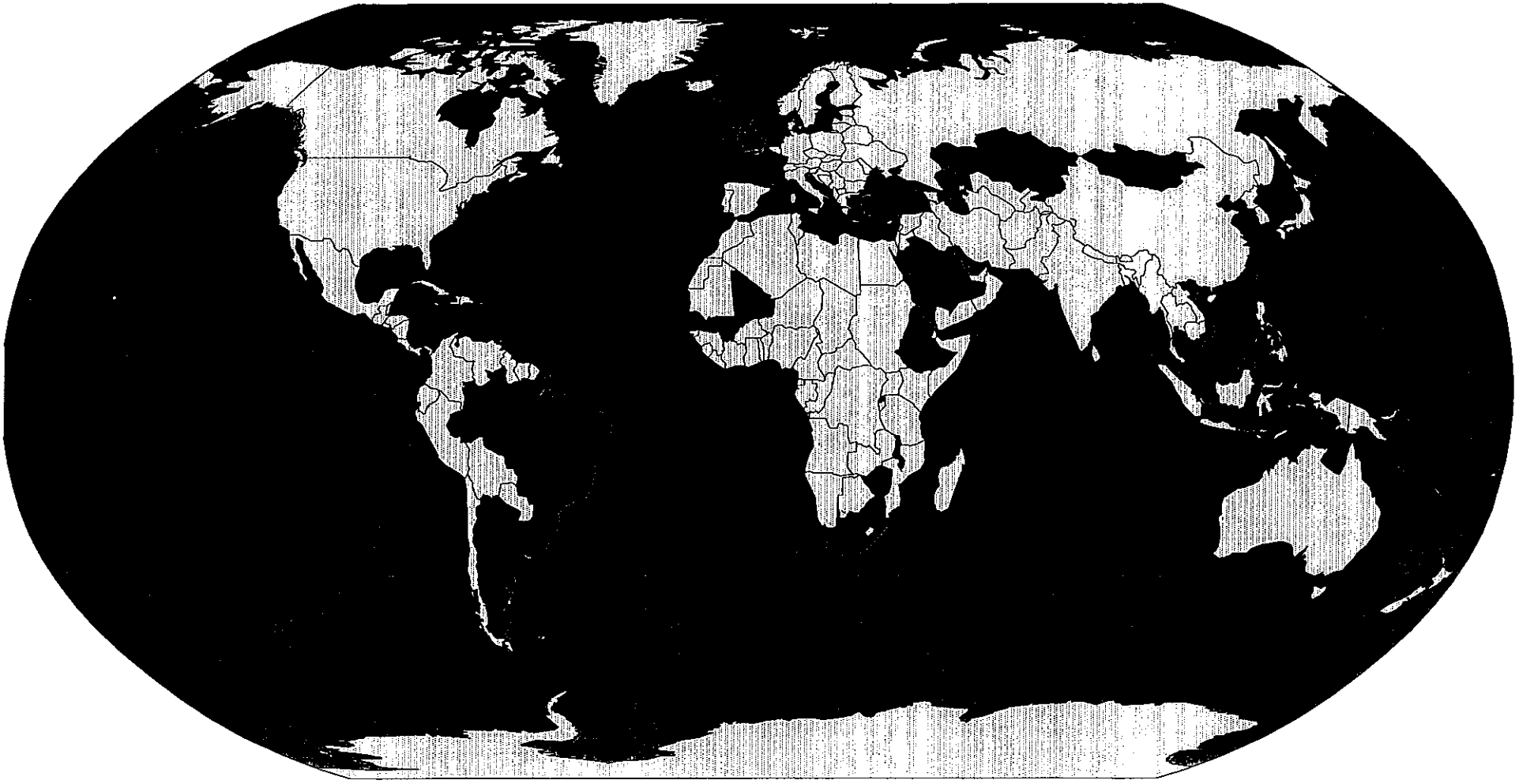
FMD situation 2000-2001



Spatial Information Research Centre, University of Otago 2000

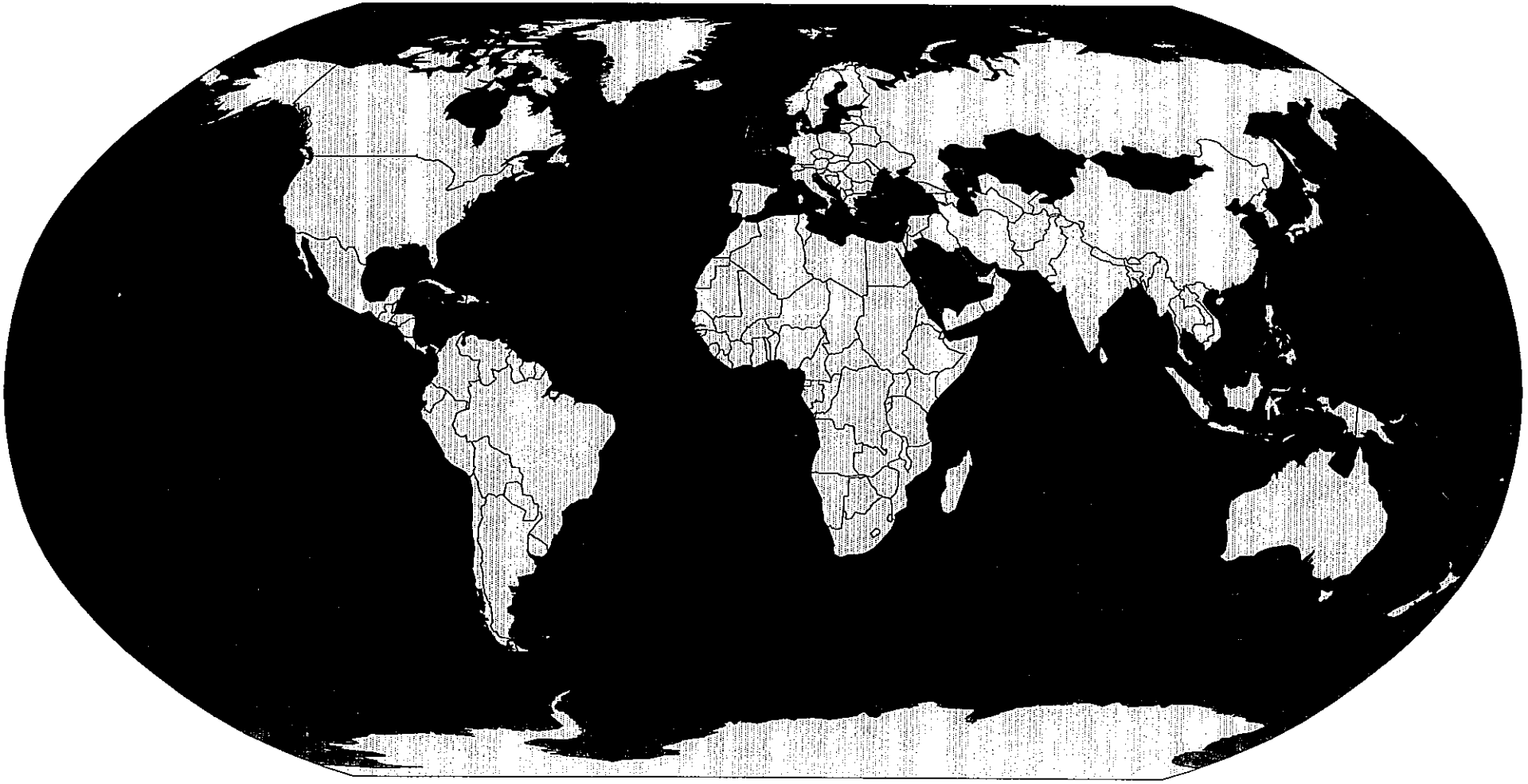
Appendix 1

FMD outbreaks 2001



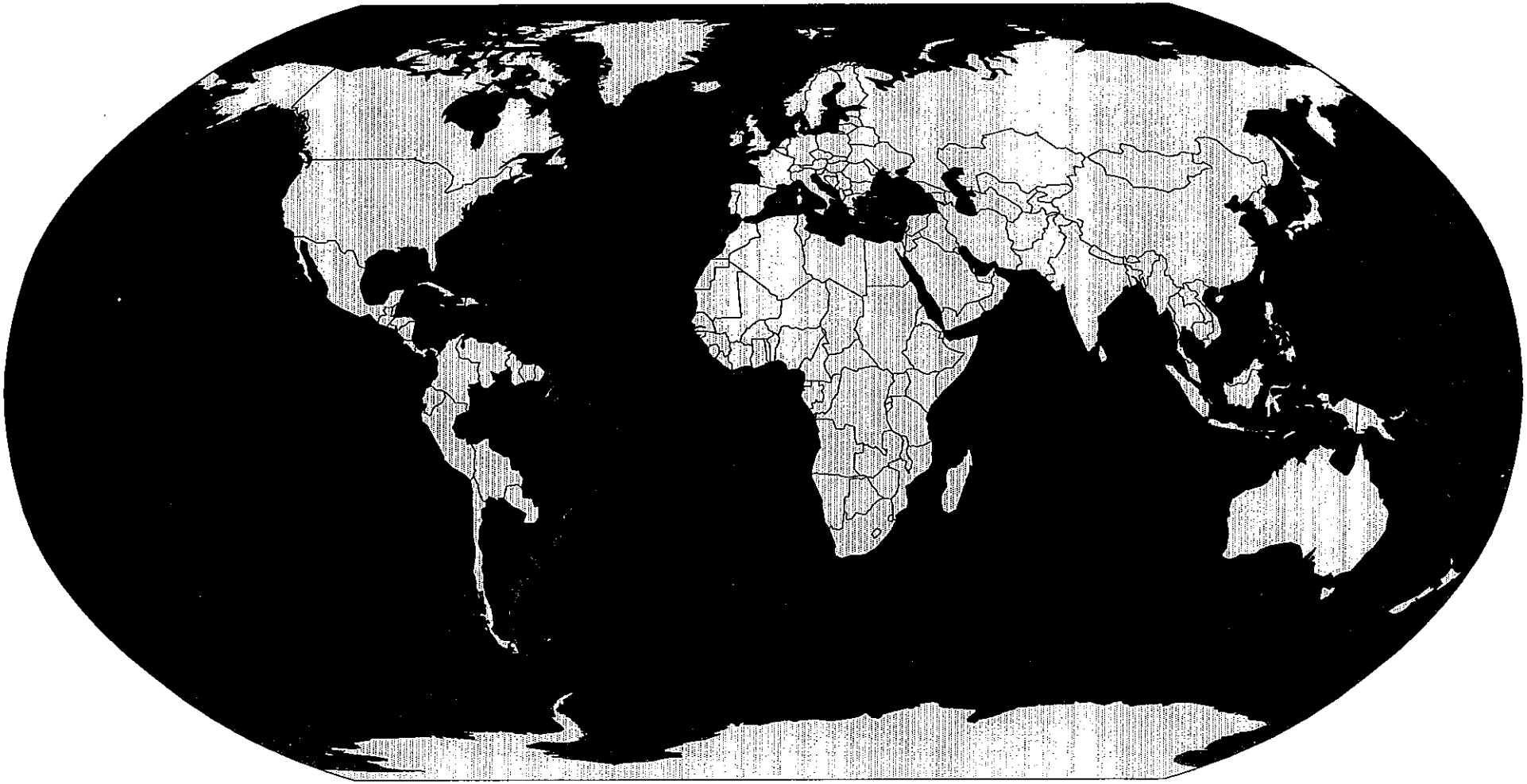
All serotypes as officially reported to OIE,WRL,FAO

FMD Type O outbreaks 2001



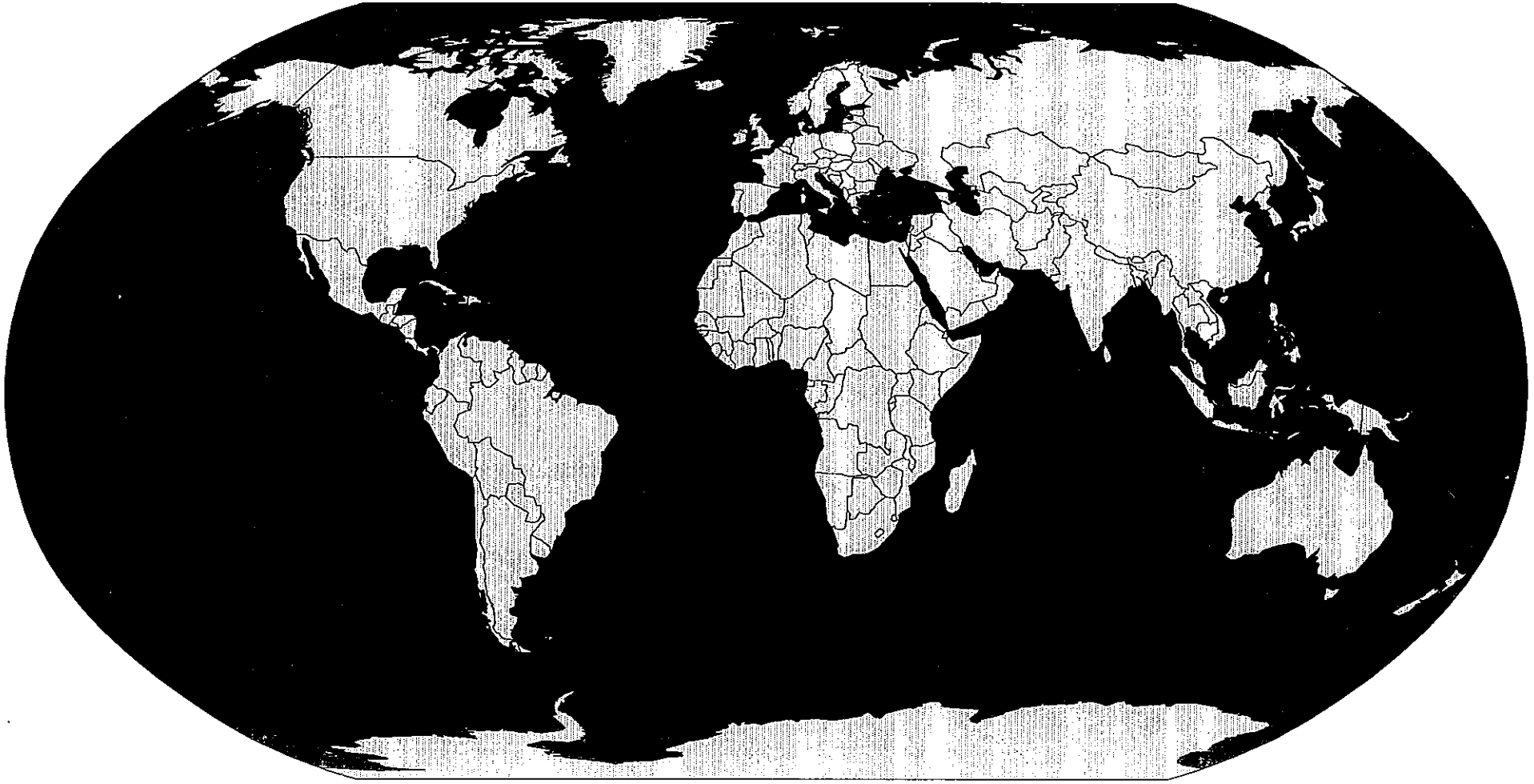
FMD Type O as officially reported to OIE,WRL,FAO

FMD Type A outbreaks 2001



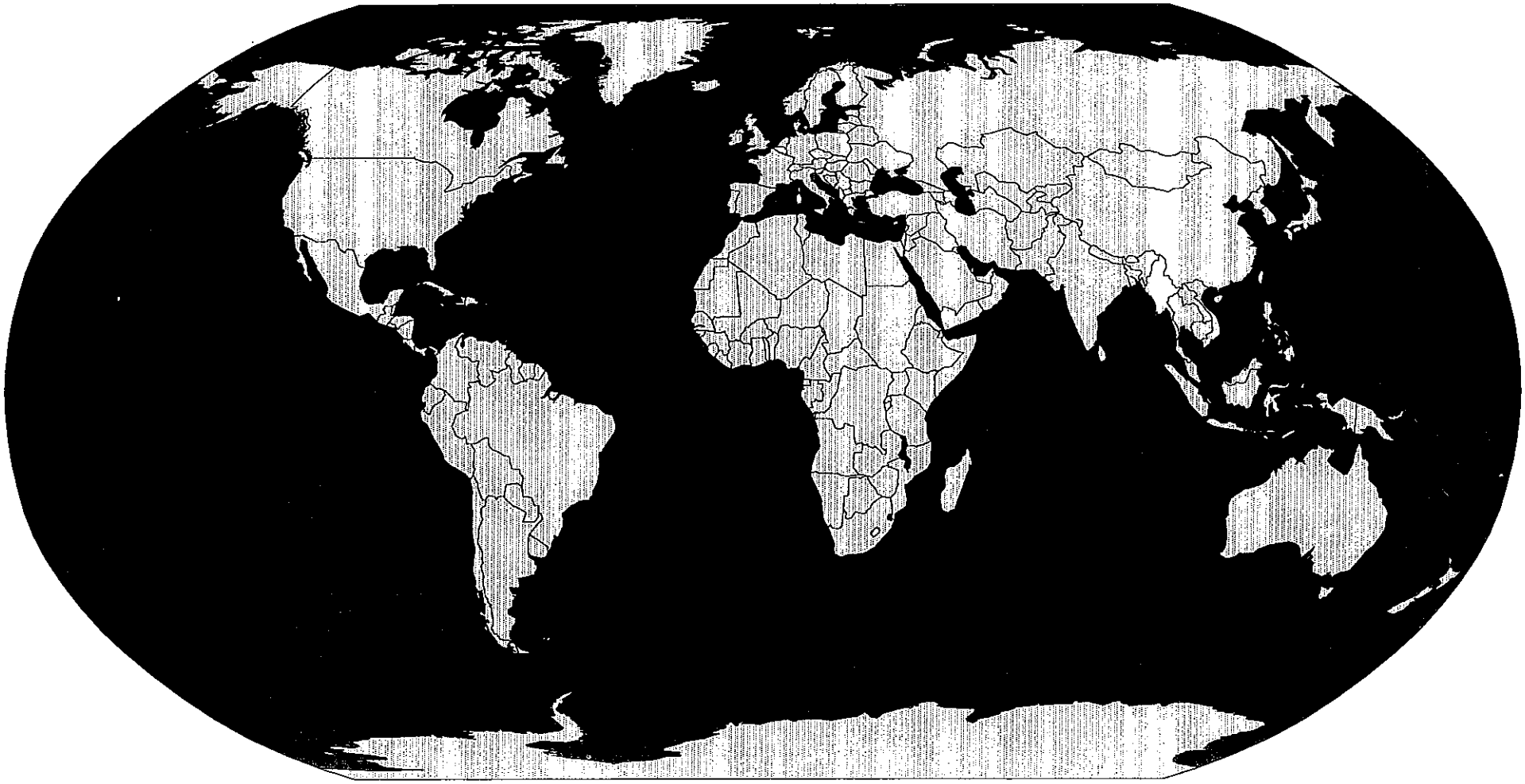
FMD Type A as officially reported to OIE,WRL,FAO

FMD Type Asia 1 outbreaks 2001



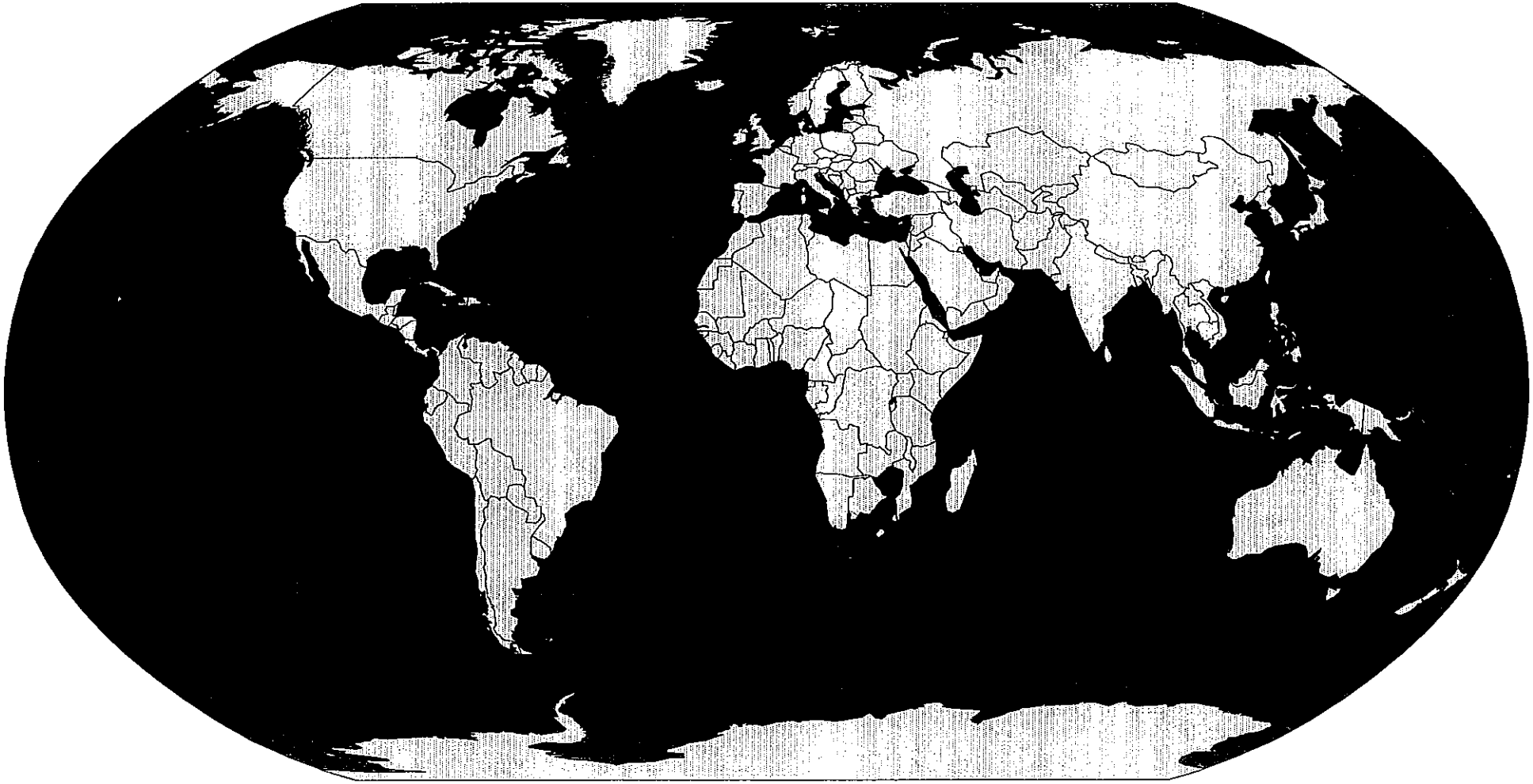
FMD Type Asia 1 as officially reported to OIE,WRL,FAO

FMD Type SAT1 outbreaks 2001



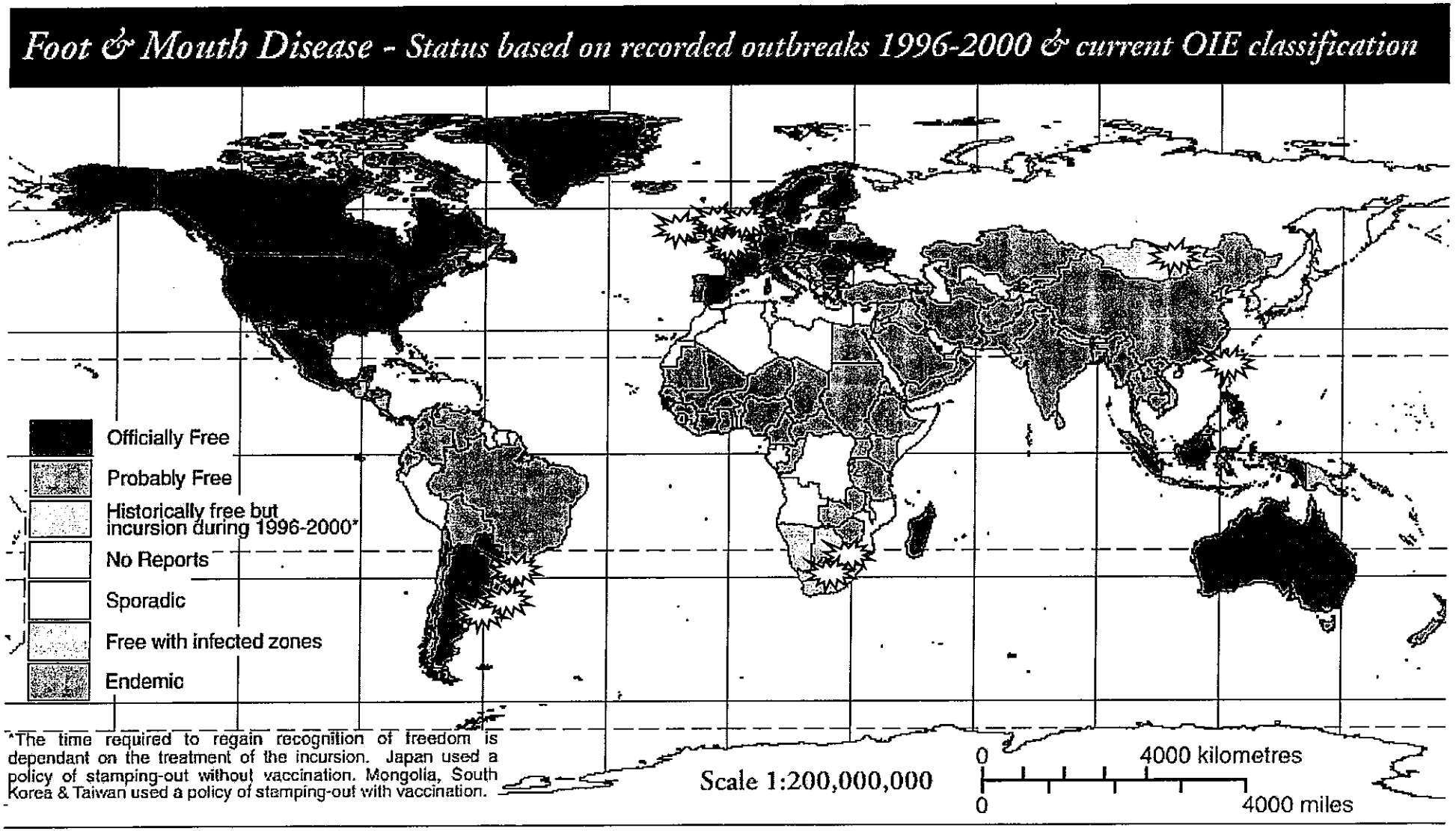
FMD Type SAT 1 as officially reported to OIE,WRL,FAO

FMD Type SAT2 outbreaks 2001



FMD Type SAT 2 as officially reported to OIE,WRL,FAO

Implications



patial Information Research Centre, University of Otago 2000

Informal review of world Foot and mouth disease situation

presented by Dr Donaldson to the OIE Foot-and Mouth Disease and other Epizootic Commission meeting of 24 september 2001

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

Europe

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

Table 1. Summary of the FMD situation in Europe during 2001

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

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

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

South America

Dr A. Donaldson reported that type A outbreaks continued to spread in Argentina during 2001. These were the first outbreaks in Argentina for nearly 7 years and came less than one year after the declaration of freedom without vaccination. The sequencing of virus isolates from different parts of Argentina in 2001 showed that they were related but antigenically and genomically different from isolates of type A in Argentina in 2000. The origins of the two type A strains have not been identified, although a neighbouring country has been implicated. In April the type A epidemic extended into

Uruguay and spread rapidly resulting in more than 80 outbreaks by the end of that month. Apart from an outbreak of type O in October 2000, which was quickly controlled by stamping out, Uruguay had been free for over 10 years. The type A epidemic also involved Rio Grande do Sul, Brazil where 11 outbreaks were reported up to May. Argentina reported 1,429 outbreaks up to 23 June and Uruguay 1,737 outbreaks up to 12 July. Mass vaccination has been reinstated by Argentina, Uruguay and southern Brazil.

A type O outbreak was reported in February by Colombia. The following countries maintained their FMD free, non-vaccinating status; Chile (since 1981), Guyana (since 1978), French Guyana (since 1953) and Surinam (never affected).

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

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

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

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

The active virus, identified by PANAFTOSA, displays many similarities to group A24 sera and to a lesser extent to groups A79 and A81 sera. Studies by PANAFTOSA to expose the field strain to a bank of bovine sera that had been vaccinated and revaccinated with trivalent oil-based vaccine (O_1 Campos; A_{24} Cruzeiro and C_3 Indaial), indicate a 72.5% expected protection rate after primary vaccination and 99.8% after revaccination, suggesting that the use of vaccines containing the A_{24} Cruzeiro virus is effective.

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

Asia

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

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

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

Africa

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

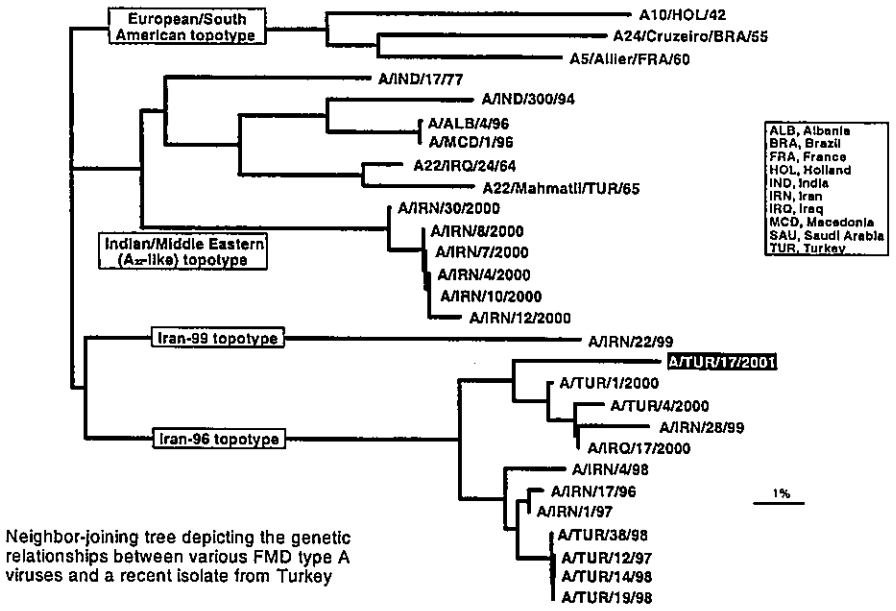
Malawi reported an outbreak of type SAT 1 in the same area where outbreaks had occurred in April/May 2000. In January, Swaziland reported an outbreak of SAT 1 in cattle in the northern Hhohho region along the border with South Africa in the traditionally FMD free area of Swaziland. The outbreak was controlled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

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

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

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

* Institute for Animal Health, Pirbright Laboratory, Woking, Surrey GU24 ONF, U.K.
(a) swine vesicular disease virus
(b) no foot-and-mouth disease, swine vesicular disease or vesicular stomatitis virus detected
[H] 1,380 samples were not processed



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

OIE/FAO World Reference Laboratory for Foot-and-Mouth Disease (a).

Supplementary, cumulative report for the period 1st September-14th November 2001

COUNTRY	No. SAMPLES	O	A	C	SAT1	SAT2	SAT3	ASIA1	SVDV (b)	NVD (c)
GUINEA BISSAU	2	-	-	-	-	-	-	-	-	2
HONG KONG	6	4	-	-	-	-	-	-	-	2
IRAN	20	10	4	-	-	-	-	3	-	3
MAURITANIA	33	5	-	-	-	-	-	-	-	28
NIGER	30	9	-	-	-	-	-	-	-	21
PHILIPPINES	10	8	-	-	-	-	-	-	-	2
SAUDI ARABIA	2	2	-	-	-	-	-	-	-	-
SENEGAL	7	-	-	-	-	-	-	-	-	7
TOTAL	**110**	**38**	**4**	**-**	**-**	**-**	**-**	**3**	**-**	**65**

(a) Institute for Animal Health, Pirbright Laboratory, Woking, Surrey. GU24 0NF. UK.
(b) Swine Vesicular Disease Virus.
(c) No foot-and-mouth disease virus, swine vesicular disease virus or vesicular stomatitis virus detected.

THE EPIDEMIC OF FOOT-AND-MOUTH DISEASE IN THE UNITED KINGDOM STATUS REPORT - 11 NOVEMBER 2001

Dr AJM Garland (on behalf of the WRL and DEFRA)

BACKGROUND

- The last outbreak of FMD on the British mainland was in 1967/68. The source was attributed to the import of infected sheep meat from Argentina.
- The outbreak was controlled by Stamping-Out. Control of the outbreak involved the slaughter of some 400,000 animals at a cost, in today's terms, of around 1.75 billion pounds sterling.
- The disease and the virus were eradicated within six months.
- The last outbreak of FMD anywhere in Britain was on the offshore Isle of Wight in 1981. The infection was airborne from France. It was rapidly stamped out.
- In recent years the main threat of the introduction of FMD into the United Kingdom has been perceived to be from incursions overland from the periphery of Western Europe.
- The virus involved is the Serotype O, PanAsian Strain of foot-and-mouth disease.
- This strain emerged in the Indian sub continent in the early 1990s and has since spread to cause widespread disease, including outbreaks in countries free of FMD, or of this subtype, for long periods of time. Examples include spread north to Pakistan, Mongolia and Russia; east to Malaysia, Korea, Vietnam and Japan; west to Iran and Turkey, and south to South Africa.
- In February 2001 the strain spread to the United Kingdom and thence - through animal movement - to Northern Ireland (4 foci), the Republic of Ireland (2 foci), France (2 foci) and the Netherlands (26 foci).
- Early warning and prompt action, including stamping out and (in the Netherlands) emergency vaccination, controlled the disease in all the countries infected via the UK. These countries have since reclaimed the status of "FMD free without vaccination".

THE ORIGIN OF THE OUTBREAK

- All investigations indicate that the index case was in swill fed pigs in the north-east of England.
- There was local spread to livestock, including cattle and, principally, sheep.

- The earliest cases were undetected.

- Infected sheep were widely distributed throughout much of the United Kingdom, often via livestock markets, seeding other foci.

- The clinical signs are extremely mild in the vast majority of outbreaks involving sheep. The average number of sheep displaying lesions within a single flock has been less than 5%.

- The lesions have been found mainly in the mouth of sheep. A small minority of sheep have exhibited foot lesions or lameness.

- The virus causes severe clinical disease in cattle and pigs.

SAMPLE PROCESSING TIMES AT PIRBRIGHT

- Total samples received for diagnosis : 15,396

- Total samples giving a positive diagnosis : 1,816
  Average turnaround time for a result to an individual premises 4.1 days
  Average turnaround time for a positive result to an individual premises = < 1.0 day
  Average turnaround time for a negative result to an individual premises 7.0 days

- Approximately 90% of samples were typed on original lesion material by direct antigen ELISA. The remaining 10% were typed after one or two serial passages in tissue culture.

- **Number of ELISA tests carried out :** 2,280,243

- **Number of sheep and goat sera sampled:**

  - 1,777,066 animals on 9,968 farms within the 3-km Protection Zones around FMD outbreaks.
  - 1,932,382 animals on 9,233 farms in the 3 to 10 –km Surveillance Zone around FMD outbreaks.

- Five laboratories are now testing sera, with a total combined capacity in the order of 200,000 sera per week.

- **Objectives of the serosurvey**

  - To trace the extent of subclinical infection, principally in sheep.
  - Epidemiological investigations.
  - To allow the lifting of disease restrictions.

UK EPIDEMIC (20 February to 5 November 2001)

- **2,030 Infected premises confirmed.**
  (2,026 in Great Britain and 4 in Northern Ireland).

- **last confirmed outbreak : 30 September.**

- **9,575 Premises slaughtered out comprising:-**

  2,026 Infected premises and
  7,294 Contiguous premises or dangerous contacts and
  255 Slaughtered on suspicion

- **3,940,000 animals slaughtered and disposed of comprising:-**

  601,678 cattle
  3,176,315 sheep
  138,733 pigs
  2,597 goats
  1,000 deer
  200 others

Solid Phase Competitive ELISA

VALIDATION

Specificity :

100% at 50% and 60% inhibition.

Sensitivity :

97.5 % at 50% and 99.8% at 60% inhibition.

Serological Sampling:

Protocol designed to give 95% statistical confidence of detecting disease prevalence at 5 % (95/5).

Table 1

Serological surveillance for FMD in the United Kingdom
Interim Results to 5 November 2001

PURPOSE OF SAMPLING	No. Serum Samples	No. Sera +ve. (%)	No. Farms Sampled	No. Farms +ve. (%)
Sera from 3-km Protection Zone	736,598	402 (0.05)	9,968	29 (0.29)
Sera from 3-10-km Surveillance Zone	795,803	150 (0.02)	9,233	6 (0.6)
Sera to permit movement of animals	625,107	61 (0.03)	1,814	1 (0.05)
TOTAL	2,157,508	613	21,015	36

Sera tested by means of Solid Phase Competitive ELISA method.

Table 2

UK FMD-SUSCEPTIBLE LIVESTOCK POPULATION AND NUMBERS CULLED

	CATTLE	SHEEP AND GOATS	PIGS
TOTAL EXTANT (December 2000)	**10,878,000**	**27,591,000**	**5,948,000**
SLAUGHTER On Ips	**313,742**	**922,858**	**26,033**
SLAUGHTER on DCs	**273,846**	**2,145,492**	**110,322**
SLAUGHTER On clinical suspicion	**14.090**	**107,965**	**2,378**
TOTAL SLAUGHTERED	**601,678 (5.53%)**	**3,176,315 (11.5%)**	**138,733 (2.3%)**

IP : Infected premises.
DC: Dangerous contact or contiguous premises

FOOT & MOUTH DISEASE DAILY SITUATION REPORT:

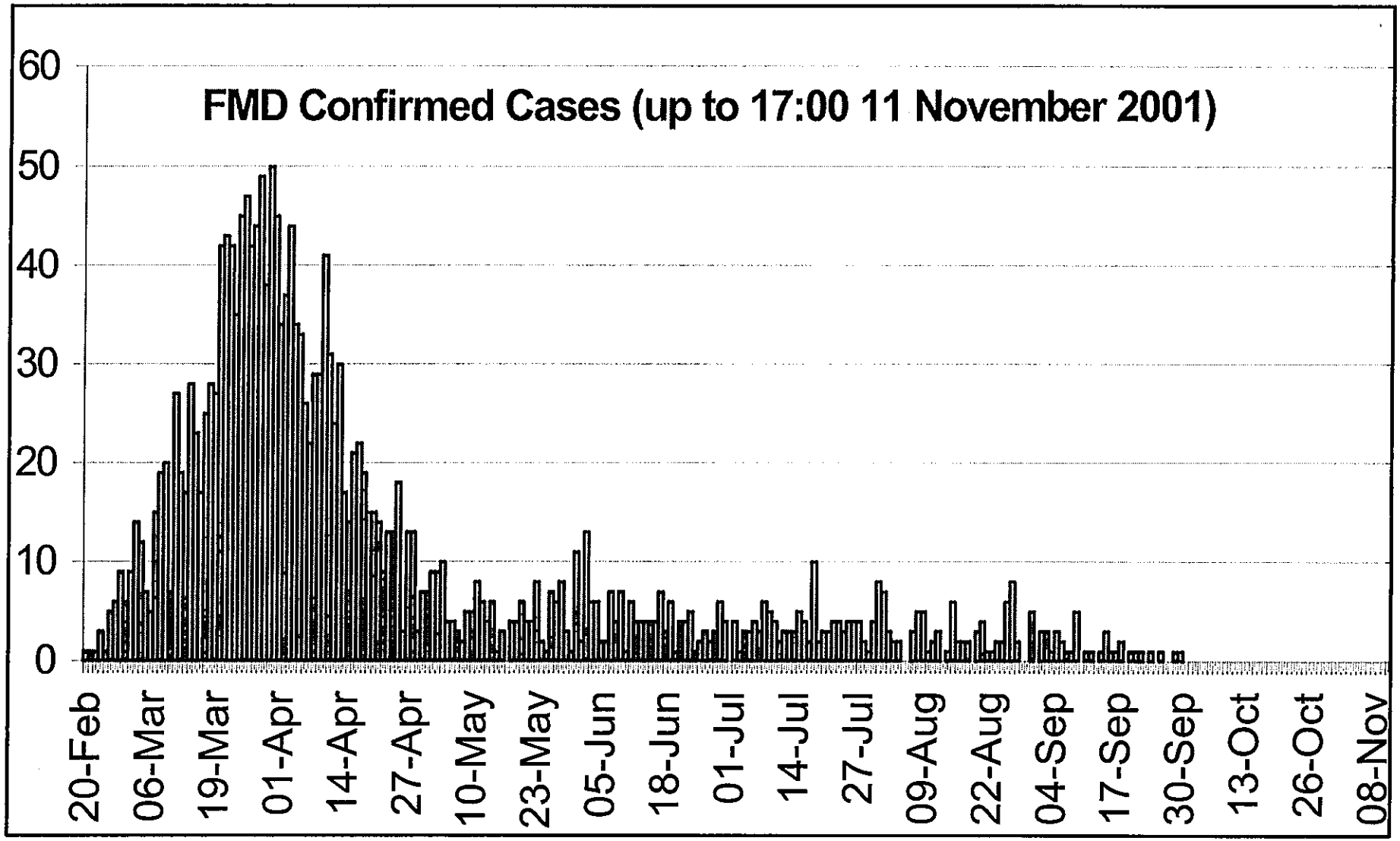
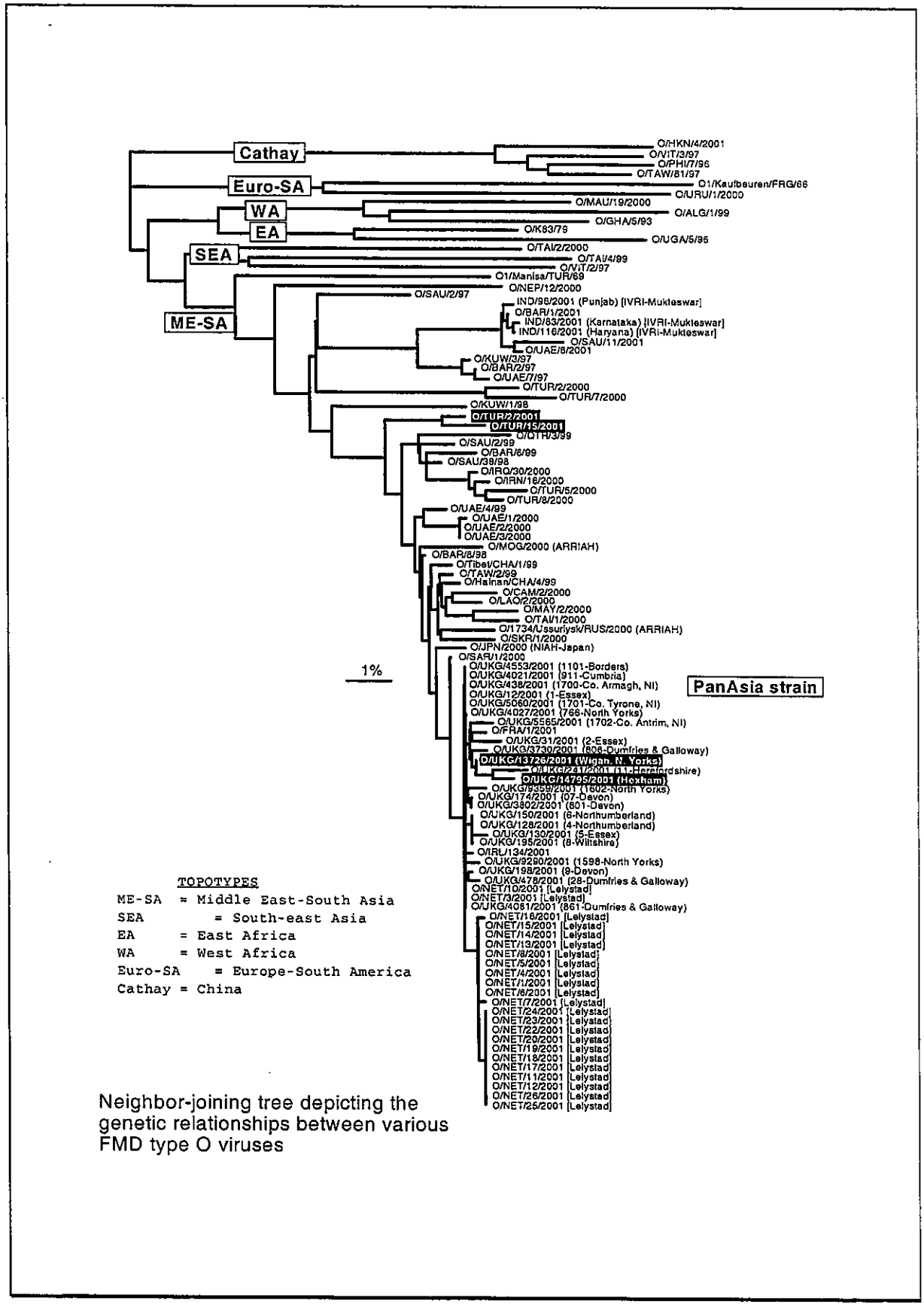


Figure 1

Figure 2



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

Appendix 5

Controlling Foot-and-Mouth Disease in the Netherlands (21 March to 22 April 2001)

Dr. Frits H. Pluimers
Chief Veterinary Officer, Ministry of Agriculture,
Nature Management and Fisheries,
The Netherlands

Preface

Foot-and-mouth disease was identified in the Netherlands on 21 March 2001 and was quickly followed by more cases. Thanks to stringent measures, the disease was quickly contained. The last case was identified on 22 April in an area where the most severe movement restrictions already applied. Although there were only 26 confirmed cases, the damage to the Dutch livestock sector was enormous. To stop the spread of the disease, almost 260,000 animals from more than 2,600 farms in infected areas were slaughtered. The blow to farmers and their families was emotional as much as financial. The recreation sector also suffered considerable loss of income, as nature areas were closed to the public.

Because there had been no new confirmed or suspected cases since 22 April, the European Union decided on 26 June to lift all remaining export restrictions applying to the Netherlands.

The outbreak of foot-and-mouth disease in the Netherlands

On 20 February 2001, the news that foot-and-mouth disease had been found in the United Kingdom sent shock waves throughout the European Union. France was the second country to be struck by the disease. On 13 March it was identified on a dairy farm close to a farm that had imported sheep from the United Kingdom in February. The pathogen responsible was foot-and-mouth virus type 0, the 'pan-Asiatic' strain.

A week later, on 21 March, foot-and-mouth disease was confirmed in the Netherlands. The authorities traced the source of the disease to a consignment of Irish calves imported into the Netherlands on 24 February 2001. These calves had stayed at a staging point in Baroche Gondoin in the French department of Mayenne on the night of February 23-24, together with British sheep which were later found to be positive in a serological test for the foot-and-mouth virus.

The first two cases in the Netherlands occurred on dairy farms in the province of Overijssel. The next 18 cases but one occurred in the province of Gelderland. Infection was ascribed to human contact, shipments of livestock or simply physical proximity to an infected farm. On 11 and 12 April, foot-and-mouth disease was identified quite unexpectedly on two dairy farms in the northern province of Friesland. These cases in Friesland were the only ones to occur outside the initial infected area. After 10 April, only three more cases were identified, on farms in Gelderland and Overijssel. The last case, the 26th, was identified on 22 April in Overijssel. Foot-and-mouth disease did not occur outside the provinces of Friesland, Gelderland and Overijssel.

Disease control

European Directive 85/511/EEC lays down measures that must be taken in the event of an outbreak of foot-and-mouth disease. This directive is incorporated in the national legislation of individual Member States. In the directive, one of the key strategies to control the disease is immediate isolation of the area in which the disease is found.

The measures adopted by the Netherlands to control the disease were much more far-reaching than those laid down by European law. These drastic measures were necessary because of the intensive nature of livestock farming in our country, which is characterised by high density of FMD susceptible animals, a high volume of animal transports and many person-to-person contacts. In addition, large numbers of animals are imported and exported.

The National Inspection Service for Livestock and Meat (RVV) was responsible for the implementation of disease control measures in practice. The organisation went into the highest alarm phase when foot-and-mouth disease was reported in the United Kingdom. There, the virus had had time to spread before it was identified. In view of the frequent movements of livestock between the two countries, there was a real risk that the virus had also been introduced here. It was decided that all susceptible animals introduced into the Netherlands from the United Kingdom during the incubation period of the virus would be slaughtered preventively. However, pigs imported from the United Kingdom were quarantined, inspected and tested but were not slaughtered. Afterwards, it turned out that none of these animals had carried the virus, but the move had been necessary in the Dutch strategy to always stay one step ahead of the disease.

After the first case in the Netherlands, the disease was combated with severe movement restrictions in infected and suspected areas, stamping out and emergency vaccination. The strategy was successful: the disease was under control after only 31 days.

Movement restrictions in infected and suspected areas

When foot-and-mouth disease was identified in the Netherlands, the European Commission passed Decision 2001/223/EC on 21 March 2001 laying down protective measures. In Annexes to this Decision, the Netherlands was divided into infected and suspected areas (Annex I areas) and not suspected areas (Annex II areas).

After the first outbreaks only the provinces Gelderland, Overijssel, Flevoland and Noord-Brabant figured in annex I. Due to a rapid increase in outbreaks, the whole territory of the Netherlands was placed in Annex I on 11 April. However, from 23 April, those parts of the country where no cases or suspect cases were found, were gradually put in Annex II.

In general:

Annex I areas comprised the provinces or parts of provinces where infected farms were found. Movements of live biungulate animals within and from Annex I areas were prohibited, and products of susceptible animals could only leave an Annex I area after having undergone a prescribed treatment.

Annex II areas were all areas not listed under Annex I. Here, too, a movement ban applied to biungulates and the export of products of susceptible animals was subject to strict conditions.

Near the end of the outbreak in the Netherlands, a third geographical category was created for areas where the possibility of foot-and-mouth disease could be ruled out with certainty. Export bans for susceptible animals in this region were gradually relaxed from 10 May onward.

Compartments

The Netherlands was subsequently divided into six compartments, with the aim of containing risk contacts within the compartment. The transport of biungulates and certain animal products such as milk and manure between compartments was strictly prohibited. Within a compartment, movements of animals were allowed only if there were no suspected farms in the compartment. Feed suppliers, milk trucks and so on were only allowed to visit farms within a compartment. Conveyances, i.e. trucks, trailers and containers, used on farm visits in one compartment were not allowed to be used for that purpose in another compartment. Trucks and trailers were registered and labelled with coloured stickers, so that enforcement officers could tell which compartment transporters were bound to.

Movement bans

When foot-and-mouth disease was identified in the United Kingdom, the European Commission banned the export of biungulates and products of these animals from the UK. The Netherlands announced a nation-wide movement ban for sheep and goats. Markets for all livestock - whether biungulate or not and including poultry - were closed and exhibitions and other events where animals are brought together were cancelled. After the outbreak in France, the Netherlands imposed a ban on all movements of biungulates.

When foot-and-mouth disease was confirmed in the Netherlands, a 72-hour general movement ban was laid down in all of the Netherlands for all transports of livestock, poultry and conveyances for transporting these animals. When the source of infection was established on 24 March (Irish calves imported via France), the general standstill order was lifted.

After this, severe restrictions continued to apply in the so-called restricted areas (where cases of the disease were suspected or confirmed). The compartmentalisation scheme remained in force. Within a compartment, strict conditions applied for transports of semen, embryos and ova of biungulate animals. Animal feed could be delivered to farms and milk could be picked up, provided the conveyances used were cleaned and disinfected before leaving the farm. Poultry transports were allowed only in the case of one-day chicks and slaughter animals. Visits to farms with livestock were prohibited, except in urgent cases requiring professional help from a veterinarian or technical expert. These visits were subject to stringent cleaning and disinfection procedures.

Stamping-out

Before the outbreak of foot-and-mouth disease in the Netherlands, the Government had already taken the precautionary measure of slaughtering all susceptible animals on farms where sheep and deer were present which had been imported from the UK. On farms which had imported pigs from the UK, clinical checks had been carried out and blood samples taken for analysis. Farms which had been in contact with these farms were blocked and clinically tested. The same system was applied in the case of biungulates imported from France.

When the first case of the disease was identified in Dutch territory, the Government adopted a strategy of immediate action. As soon as a new case was identified the farm concerned was blocked and all susceptible animals (cattle, sheep, pigs and goats) were slaughtered. Susceptible livestock on contiguous farms in a radius of one to two kilometres from the infected farm and on 'dangerous contact' farms were also preventively slaughtered. In principle, animals from infected farms were slaughtered on the basis of test results for foot-and-mouth disease. If there were strong clinical indications for foot-and-mouth disease, however, livestock was slaughtered without delay on the suspected farm, contiguous farms and dangerous contact farms.

Livestock was slaughtered on the farms themselves. So-called protection zones were imposed in a circle of three kilometres around infected farms. Within these zones, all transports were prohibited and clinical inspections were conducted on all farms with susceptible livestock. Outside the protection zone, a surveillance zone was imposed with a radius of at least ten kilometres around the infected farm. All transports were prohibited in this zone.

Emergency vaccination

The European Union has maintained a policy of non-vaccination since 1 January 1992. In cases of foot-and-mouth outbreaks, however, Member States may, under certain conditions and with explicit permission of the European Commission, carry out emergency vaccination. Emergency vaccination is restricted to susceptible animals earmarked for preventive slaughtering on farms within a certain distance from an infected farm. Emergency vaccination may be adopted when there is insufficient slaughtering or rendering capacity for the number of animals that need to be destroyed.

Emergency vaccination enables the authorities to carry out culling in phases, while preventing the disease from spreading further. One of the conditions of vaccination is that all vaccinated animals are identified by an indelible mark and are killed and destroyed within two months of vaccination.

In order to control the outbreak rapidly and effectively, the European Commission granted the Netherlands permission to carry out emergency vaccination on susceptible livestock in zones of 2 kilometres around an outbreak. However, in the most heavily infected zone at the borders of the provinces of Gelderland and Overijssel, emergency vaccination was allowed in a specifically defined and much bigger (up to 10 kilometres) area. The last vaccinated animals were slaughtered on 25 May 2001.

	Vaccinated and later culled	**Total culled**
Pigs	85,911	121,437
Cattle	62,495	85,186
Sheep	23,401	32,633
Goats	5,585	8,297
Other Biungulates	85	11,642

Outbreaks

In the period from 21 March to 22 April, 26 cases of foot-and-mouth disease were identified: twenty in the province of Gelderland, four in Overijssel and two in Friesland.

Vaccination

By the end of the foot-and-mouth period, a total of 177,474 animals on 1,931 farms had been vaccinated and later culled: 62,495 cattle, 85,911 pigs, 23,401 sheep, 5,585 goats and 85 other biungulates.

Culling

During the foot-and-mouth disease crisis, livestock on 2,655 farms was culled: 85,186 cattle, 121,437 pigs, 32,633 sheep, 8,297 goats and 11,642 other biungulates.

The end of the outbreak

When no new cases were suspected or confirmed after the case on 22 April, the European Commission decided on 10 May to lift some of the transportation restrictions. On 13 June, export restrictions were lifted in all parts of the Netherlands except the last surveillance zone in Gelderland.

On 25 June 2001, it had been thirty days since the slaughter of the last vaccinated animal on 25 May. There had been no new cases or suspected cases since 22 April. The European Commission therefore declared the Netherlands officially free of foot-and-mouth disease from 26 June. All remaining restrictions for transports of live animals or animal products to other Member States were lifted.

Improvements in the future

The outbreak of foot-and-mouth disease demonstrated the importance of minimising factors which could lead to a new outbreak in the future. Measures are therefore being adopted to restrict transports of susceptible animals to direct transports between the business of origin and the destination. Stopovers in transit should comply with strict conditions. The identification and registration system for livestock also needs to be improved. The system that is currently in place has been put under the direct supervision and responsibility of the national Government.

The OIE

Until this recent outbreak of foot-and-mouth disease, the Netherlands had been classified by the OIE as a foot-and-mouth disease free country where vaccination is not practised (Article 2.1.1.2). According to Article 2.1.1.6, a country can regain this status after an outbreak when it has gone through a no-incidents period of:

a. three months after the last case, where stamping-out and serological surveillance are applied, or
b. three months after the slaughter of the last vaccinated animal where stamping-out, serological surveillance and emergency vaccination are applied.

As emergency vaccination was applied (the last vaccinated animal was killed on 25 May 2001), point b of the OIE regulations applies, so that the Netherlands regains its status as a "foot-and-mouth disease free country where vaccination is not practised" from 25 August 2001.

Characteristics of the Dutch strategy

The Dutch strategy to control foot-and-mouth disease stood out in a number of ways:

Education
The National Inspection Service for Livestock and Meat (RVV) employs veterinary officers who are specially trained to recognise animal diseases such as foot-and-mouth disease. Continuous training and routine exercises help RVV veterinary officers keep their knowledge up to date. Private veterinarians also receive regular refresher courses on foot-and-mouth disease.

Experience
Because livestock farming in the Netherlands is intensive, both the authorities and the sector have a lot of experience with disease control operations. These experiences have been used to draw up contingency plans. Although the Netherlands had not had an outbreak of foot-and-mouth disease since 1984, the contingency plan had been continually adapted to incorporate new developments in the sector. A fully up-to-date contingency plan for the control of foot-and-mouth disease was therefore available in early 2001.

Exercises
Foot-and-mouth exercises are held each year. These exercises in 'peacetime' resulted in good agreements with organisations and businesses which are contracted to assist the authorities in the event of an outbreak of foot-and-mouth disease.

Crisis Control Centres
Local crisis control centres with responsibility for operational aspects are vital in implementing appropriate measures in the affected regions. In the 2001 outbreak, three crisis control centres were set up.

Information
Good information to the sector and the public facilitate disease control. Therefore, all measures were published immediately on the special foot-and-mouth page of the Internet site of the Ministry of Agriculture, Nature Management and Fisheries. A call centre was also set up and manned by competent staff seven days a week.

Speed
An important aspect of the Dutch strategy was the rapid response to every suspected or confirmed case of foot-and-mouth disease. When outbreaks of the disease occurred in other countries, Dutch authorities immediately checked which imports had taken place from those countries. Livestock was put under quarantine and preventively slaughtered or inspected on farms which had imported animals from the affected countries in a six-week period prior to the outbreak, as well as on contact farms.

Appendix 6

REPORT ON THE FMD SITUATION AND CONTROL PROGRAMME IN TURKEY

Republic of Turkey
Ministry of Agriculture and Rural Affairs
General Directorate of Protection and Control

Foot-and-mouth disease Situation and Control Programme in Turkey

1. Introduction

Foot-and-mouth disease (FMD) continued to be endemic in Turkey where 83 outbreaks have been reported in the past ten months in 2001. FMDV serotypes 0, A and ASIA 1 were circulating in the country. Type 0 and Asia 1 was responsible for most of these outbreaks.

The geographical situation of Turkey is always a risk factor for the dissemination of the contagious diseases mainly from the eastern and southeastern neighbours. Animal movements within the country are mainly from east to the western parts of the country, where big consumption areas are located.

Turkey has increased its efforts to **control illegal animal movements** through the borders. Illegal animal movement to Turkey has been minimised in 2001. Efficient control of the **animal movement within the country** is also improved.

- Very strict control measures are performed at the borders working with the coordination of the relevant authority. (Ministry of Agriculture and Rural Affairs, Ministry of Internal Affairs, Army, Custom etc.)
- In order to provide adequate penalties for illegal traders and carriers (Driver, Vehicle) some of the articles of the Law of the Animal Health and Control has been chanced.
- Identification and registration system for bovine animals has been established.
- After the economical crises in this year, illegal animal movements to Turkey have been stopped (because of inflation).

National Veterinary Services have made great efforts to control the disease in recent years. To increase the farmer participation in the disease control programmes, it was decided to charge farmers for the FMD vaccination programme. Turkey has been investing significant amounts of money to increase the quantity and the quality of FMD vaccine which will in turn, contribute to the control of FMD in Turkey.

2. Disease situation

Daring the last 10 months in 2001, 49 outbreaks due to type 0, 2 outbreaks due to type A and 32 outbreaks due to type Asia 1 have occurred in Turkey.

No FMD outbreak has been reported since March 1995 in the Thrace region when an outbreak (due to type 0) occurred in a goat flock in Tekirdag province in June 2001. Strict measures such as quarantine, disinfection, surveillance, ring vaccination and movement bans has been taken in the region. The disease did not spread to other places. As a result, all the restrictions and quarantine measures in the mentioned outbreaks have been lifted.

At the beginning of June 2001, a total of 18 foot-and-mouth disease virus (type 0: 10, A: 4 and ASIAI: 4) were sent to 01E/FAO World Reference Laboratory for diagnostic confirmation. Until now we have not received a report from the Pirbright Laboratory.

The list of outbreaks, broken down by month, is given for 2001 in Table 1.

Table 1: FMD Outbreaks in 2001

	OUTBREAKS				SUSCEPTIBLE		INFECTED		DEATHS	
MONTH	Type				Cattle	Sheep	Cattle	Sheep	Cattle	Sheep
	0	A	ASIA1	Total						
January	4	1	3	8	4248	0	60	0	0	0
February	6	0	3	9	2890	0	20	0	0	0
March	17	1	8	26	21322	3565	232	165	2	0
April	2	0	2	4	2111	6500	86	150	15	62
May	5	0	6	11	6500	1100	437	80	1	0
June	9	0	9	18	8590	300	742	50	1	1
July	3	0	0	3	2413	0	34	0	0	0
August	0	0	0	0	0	0	0	0	0	0
Septeniber	1	0	1	2	1183	4	0	0	0	0
October	2	0	0	2	1400	0	150	0	7	0
TOTAL	**49**	**2**	**32**	**83**	**50657**	**11469**	**1761**	**445**	**26**	**63**

3. Control programme

Active surveillance and monitoring, vaccination, quarantine, restrictions on animal and animal product movements are being applied for the control of the disease. Stamping out policy has been approved to be implemented in the planned regions. Our aim is to reach at least 80% of vaccination coverage in large ruminants.

Active surveillance and monitoring programme has been carried out in the field especially in surveillance zone (Kars, Ardahan, Igdir, Agri, Van, Hakkari and Sirnak Provinces) for detection and control of FMD.

3.1. Vaccination strategy in 2001

General Directorate of Protection and Control (GDPC) formed a control programme for the year 2001. **Biannual mass vaccination programmes** were applied.

- Application of routine mass vaccination using trivalent vaccine to **all ruminants** in the **Thrace and Marmara regions.**
- Application of routine mass vaccination using trivalent vaccine to **all large ruminants in other regions.**

- Application of **strategic vaccination** using trivalent vaccine to **large ruminants in the Black Sea region.**
- Application of strict quarantine measures and **ring vaccination around the outbreaks.**

3.2. Vaccine Production

Sap Enstitüsü (FMD Institute) located in Ankara is the only Government laboratory for vaccine production and diagnosis of FMD in Turkey. It also carries out the epidemiological studies in the country. Vaccine production figures in 2001 are given in Table 2. A total of 24.750.000 cattle doses of monovalent FMD vaccine have been produced.

Table 2. Vaccine production in 2001

Vaccine strain	Amount of vaccine produced (cattle doses)
0 Manisa 69	8.450.000
A Aydin 98 (homologue Iran 96)	9.500.000
Asia 1 74	6.800.000
Total	**24.750.00**

In addition 3.000.000 trivalent FMD vaccines have been imported from a commercial company.

On the other hand, The European Union (EU) was supplied 1.100.000 doses of trivalent FMD vaccine, containing serotypes 0, Asia 1 and A to be used in Thrace. Also 200.000 doses trivalent FMD vaccines remaining from last year were received. The amounts of vaccine delivered to the field for the Autumn campaign are given in Table 3.

Table 3. The amounts of delivered vaccine for the Autumn campaign in 2001

Vaccine strain	Amount of vaccine delivered (cattle doses)
Imported (01 Manisa, A 96, Asia 1)	3.000.000
FMD Ins. (01 Manisa, A Aydin 98, Asia 1)	3.524.000
Interved (01 Manisa, A Iran 96, Asia 1)	870.000
Bayer (01 Manisa, A Iran 96, Asia 1)*	230.000
Total	7.624.000

*Stocked in Pendik Veterinary Control and Research Institute.

The present situation for vaccine production in *FNM Institute* is favourable and quantity of vaccine is sufficient to cover the needs for the autumn campaign. The amounts of vaccine delivered to Thrace region is given in Table 4.

Table 4.The amounts of delivered vaccine for Thrace region

Province	Animal Population		Delivered vaccine (cattle doses)
	Large Ruminants	Small Ruminants	
CANAKKALE	102.292	630.400	375.000
EDIRNE	112.685	215.836	175.000
ISTANBUL	80.170	82.730	114.600
KIRKLARELI	81.758	197.820	155.000
TEKIRDAG	97.470	158.587	230.000
TOTAL	**474.375**	**1.285.373**	**1.069.600**

3.3.Vaccination campaign

The vaccination programme in Turkey for 2001 is as follows:

- Thrace and Marmara Region: Vaccination of all ruminants with the trivalent vaccine containing serotypes 01 Manisa, Asia 1 and A Aydin 98 (Iran96) in Thrace and Marmara region (Edirne, Tekirdag, Kirklareli, Istanbul and Canakkale, Balikesir, Bursa, Yalova, Kocaeli, Sakarya, Bilecik, Bolu, Duzce).

- In other regions of Turkey: Vaccination of all large ruminants with the trivalent vaccine containing serotypes 01 Manisa, Asia 1 and A Aydin 98 (Iran96) in the remaining regions.

Vaccination coverage in the 2001 **Spring campaign** was about 60% both in Anatolia and in Thrace. Because of some problems at the industrial level and modernisation studies to improve the production conditions at Ankara, Sap Institute, sufficient quantity of FMD vaccine could not be produced at the beginning of the 2001.

In this period, due to the lack of the available vaccine, importation from other countries was intended, but none of the international producers put up tender until the end of March. Finally, in April, Indian Biological Company accepted to provide 3 million doses trivalent vaccine. As it was planned to vaccinate animals in the Thrace with the imported vaccine, the trivalent vaccine produced by Sap Institute were delivered through the eastern and southeastern borders. So, the rate of the vaccination in Thrace Region could not reach the desired level.

The **Autumn vaccination** campaign started on 1 October and should be completed by 15 December 2001. Vaccination campaign started from the Greek and Bulgarian borders in Thrace region. Initial vaccination figures for Thrace region and the other regions are given in Table 5 **and in Table** 6 respectively.

Table 5. FMD vaccination figures for Thrace region

Province	Animal population		Vaccinated		Percentage (%)	
	Large Rum	Small Rum	Large Rum	Small Rum	Large Rum	Small Rum
CANAKKALE	102.292	630.400	39.666	32.767	39	5
EDIRNE	112.685	215.836	66.066	26.293	59	12
ISTANBUL	80.170	82.730	27.578	5.623	34	7
KIRKLARELI	81.758	197.820	47.398	90.406	58	46
TEKIRDAG	97.470	158.587	59.409	36.635	61	23
TOTAL	**474.375**	**1.285.373**	**240.117**	**191.724**	**51**	**15**

Average vaccination percentage in Thrace region is **51%** and **15%** large and small ruminants respectively. Average vaccination percentage in the remaining region is **30%** and **29%** large and small ruminants respectively.

Table 6. Vaccination figures for the Autumn vaccination campaign in the other regions

	Vaccination programme		Vaccinated		Percentage	
	Large Rum	Small Rum	Large Rum	Small Rum	Large Rum	Small Rum
Total	7.302.040	1.394.857	2.188.491	404.178	30	29

3.4. Serological survey in Thrace

Serological survey is planned for Thrace region in 2001 before starting the Autumn campaign as follows:

1st group of 35 villages has been selected randomly for day 0 and 15 cattle and 15 sheep will be selected from these villages. To see the change in antibody levels the same group of animals will be bled at day 28. Samples have already been delivered to the FMD institute for day 0.

2nd group of the same amount of animals but from different 35 villages has been selected and the blood sera will be collected 60 days post vaccination.

3rd group: the same amount of animals but from different 35 villages has been selected and the blood sera will be collected 120 days post vaccination. To detect antibodies against 3ABC, it has been planned to test only two of these groups (day 0 and day 60 or 120).

4th group is selected to measure the protective level of vaccine in the field experimentally. For this purpose sero-negative 30 cattle and 30 sheep will be vaccinated and sera will be tested at days 0, 14, 28, 42, 56. by LPB-ELISA.

4. Progress for animal identification

Bovine animals in Turkey are identified by ear-tags since 1991 in some provinces. Some rganizations such as Turkish Breeding Dairy Cattle Association also keep records and pedigrees of bovine animals in Turkey.

In order to identify and register all the bovine animals in Turkey, to eliminate the deviations in the existing implementations and to provide uniformity, the Regulation on Identification, Registration and Monitoring of Bovine Animals harmonised with Council Directive 92/102/EEC and Council Regulation (EC) No 820/97 was published in the Turkish Official Gazette, numbered 24069 on 4 June 2000 and is in force.

The Central Authority, General Directorate of Protection and Control, is responsible for establishing a national database on animal movements and health, ensuring information flow between local units, control of the works of local units, operation and development of the central database.

Identification of bovine animals is by ear-tags numbered by the local unit and documented by the bovine animal identity card.

In any case, in bovine animal movements in the country, the bovine identity card shall remain with the animal, the relevant parts shall be filled and signed by the authorities, and shall contain the number on the animal's ear-tag. The seller has to fill and sign the relevant parts of the annex of the bovine animal identity card and submit it within 21 days to the rural unit where his farm is located. If the selling was in auction areas, the documents are submitted to the auction authority.

There have been some changes and amendments in the relevant legislations of both Turkey and the European Union in terms of identification and registration of animals since 4 June 2000. The Law of 904 on Animal Breeding has been replaced with the new Law of 4631 on Animal Breeding approved and published in the Official Gazette of 24338 on 10 March 2001. As previously mentioned, the existing Turkish Regulation on Identification, Registration and Monitoring of Bovine Animals was prepared in compliance with the Directive 92/102/EEC. Therefore, it partially needs to be amended according to the new Turkish Law and the Regulation (EC) No 1760/2000 of the European Parliament and of the Council. Re-harmonisation is already in progress.

Implementation of identification and registration of all the bovine animals in Turkey was started in September 2001. Within this framework, a computerised database system was established at General Directorate of Protection and Control in February 2001. Testing the database system was carried out before the implementation phase by receiving the information from 3 provinces for trial. Internet connections and e-mail addresses have been done in 81 provinces.

A Training Programme on implementation of identification and registration of bovine animals for the provincial competent authorities and veterinary officers took place in the second half of June 2001. Documents to be used for identification and registration of bovine animals have uniformly been published.

Report of the EUFMD/EC/OIE Tripartite Group Meeting on the Balkans held in Sofia, Bulgaria, on 12 October 2001

Introduction

Dr. Dimitar Marutsov, CVO o.i.c, NVS, welcomed the participants and then gave the floor to his Excellency Mr Boiko Boev Deputy Minister of Agriculture and Forests, Bulgaria. He stated that no country can be sure to prevent FMD and he underlined the high importance of the regional co-operation through the Tripartite Group concept as a very appropriate forum to address the problems of the region. Regarding the spread of Bluetongue in the region, he acknowledges the importance of this particular meeting in a context where the disease continues to spread in the region.

The Secretary of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD) welcomed participants on behalf of FAO. He stated that this annual meeting was of high importance for the control of FMD and other exotic diseases in the region. He explained that due to the situation of the Bluetongue, the second part of the meeting will be devoted to this disease and representatives of the other countries concerned in the region have been invited to attend. Experts from EC and OIE have also been invited.

Dr Ignacio Sanchez Esteban, Chairman of EUFMD thanked the Minister of Agriculture and Forests of Bulgaria for having accepted to organise and to host this meeting. He welcomed delegates from participating countries, from International Organisations i.e. EC and OIE (see Annex I - list of participants). Dr Esteban then presented the provisional agenda (Annex II) which was adopted. The meeting included two separate topics: FMD and Bluetongue and other exotic diseases.

PART I: REPORT ON FMD

Item 1: FMD situation and control in Turkey

The representative of Turkey presented a report on the situation of FMD over the past nine months. He stated that the situation is still serious with the presence of types O, Asia 1 and A which continue to circulate; 81 outbreaks had been reported, 47 due to type O, 32 due to type Asia 1 and two due to type A.

No FMD outbreak was reported since March 1995 in the Thrace region until an outbreak – due to type O - occurred in a goat flock in Tekirdag Province on June 2001. The disease was put under control with strict measures such as quarantine, disinfection, movement bans, control of animal markets and ring vaccination in the region. As a result the disease did not spread to other places and all the restriction measures in the mentioned outbreaks have been lifted.

The present situation for vaccine production in Şap Institute is favourable and the quantity of vaccine is sufficient to cover the needs for the autumn campaign.

The vaccination programme in Turkey for 2001 is as follows:

- in Thrace and Marmara Region, vaccination of all ruminants with a trivalent vaccine containing serotypes O_1 Manisa, Asia 1 and A Aydın 98 (Iran96) in Thrace and Marmara region (Edirne, Tekirdag, Kırklareli, Istanbul and Canakkale, Balıkesir, Bursa, Yalova, Kocaeli, Sakarya, Bilecik, Bolu, Duzce).
- In the other regions of Turkey: vaccination of large ruminants with a trivalent vaccine.

Vaccination coverage in the 2001 Spring campaign was about 60 % both in Thrace and in Anatolia. The Autumn vaccination campaign in Thrace and in Anatolia has started on 1 October 2001 and should be completed by 15 December.

A molecular epidemiology laboratory was established at the Şap Institute. An identification system for cattle (eartag and record) was started on 10 September 2001 and a training programme for the identification system has been completed.

The results of serological surveillance following the vaccination in Thrace Region in 2000 were discussed. The trivalent FMD vaccine (O_1 Manisa, A_{22} Mahmatli and Asia 1) donated by the EU was used for the Autumn vaccination campaign in Thrace. This surveillance was carried out in different four groups:

1st group - a total of 35 villages and 30 large and small ruminants from each group were selected and picked up the sera at days 0., 28., and 120 post vaccination,
2nd group - the same number of animals but from 35 different villages were selected and the blood sera collected 60 days post vaccination.
3rd group - was selected to measure the protective level of vaccine in the field experimentally. For this purpose 30 seronegative cattle and 30 seronegative sheep were vaccinated and sera were collected at days 28. and 120 and tested by LPB-ELISA.
4th group - the sera from the first two groups were tested by MAT-ELISA for detecting NSP antibodies.

In the first two groups, sera were tested in single dilution (1/100) which was accepted as protective level by LPB-ELISA. In the third group, LPB-ELISA was carried out with two fold dilutions of the sera. In the last group, sera were tested by MAT- ELISA to detect antibodies against non-structural FMD proteins. Result of LPBE indicates a drop in protection titres on day 60 which could not be explained so far.

Another Serological survey is planned for Thrace region in 2001 before starting of the autumn campaign as follows;

1st group of 35 villages has been selected randomly for day 0 and 15 cattle and 15 sheep will be selected from these villages. To see the change in antibody levels the same group of animals will be bled at day 28.
2nd group of the same amount of animal but from different 35 villages will be selected and the blood sera will be collected 60 days post vaccination.
3rd group- the same amount of animal but from different 35 villages will be selected and the blood sera will be collected 120 days post vaccination. To detect antibodies against 3ABC, it has been planned to test only two of these groups (day 0 and day 60 or 120).

4rd group is selected to measure the protective level of vaccine in the field experimentally. For this purpose seronegative 30 cattle and 30 sheep will be vaccinated and sera will be tested at days 0., 14., 28., 42., 56 by LPB-ELISA.

The representative of Turkey then reported on the TCP/INT/8922 FMD Control Project. Most of the project activities have been implemented. A first workshop was held in Iran between 8 August and 1 September 2001 attended by the National Project Co-ordinator, TCDC Experts and three Experts from the Şap Institute. In general this TCP was considered to have been very useful in strengthening the regional co-operation between Turkey and Iran.

The Secretary of EUFMD explained that France has developed a bilateral co-operation with the National Veterinary Services in Iran since four years, and they have approached EUFMD and FAO to see whether a regional programme for FMD could be proposed.

Item 2: FMD situation in Greece

Greece presented a report on Foot-and-Mouth Disease surveillance activities undertaken in 2001 until 30 September. FMD surveillance includes the passive surveillance – investigation of suspect clinical cases (250 samples collected) - surveillance on imports /or trade (1866 samples collected) and active and continuous epidemio-surveillance in areas at risk through the EVROS programme launched in mid 2000. This programme includes random sampling (36,887 samples) and pre-movement sampling (3,391 samples). All samples were found negative for FMD antibodies.

Item 3: FMD surveillance in Bulgaria

Bulgaria presented the result of their sero-surveillance for 2000. The serosurvey included the six Bulgarian regions bordering Turkey and Greece, where 67 villages within the 10 km zone of the Turkish and Greek borders were sampled. A total of 12,800 samples were analysed with negative results.

Item 4: Strategy and support for FMD Control in the region

The meeting recommended that regional co-operation be reinforced and that an EUFMD mission including representatives of Greece and Bulgaria should visit Turkish Thrace to assess the situation together with the FMD vaccination campaign being conducted with vaccine supplied by EUFMD/EC. The mission should also contribute to defining the apparently sub-optimal immune response in the 2000 campaign in Thrace, establishing the reasons for its occurrence and proposing corrective measures. Finally the mission should contribute to the finalisation of the requested TCP project on Infectious Transboundary Disease Surveillance in the Balkan Region – Bulgaria, Greece, Turkey (see Annexes III and IV) .

The Bulgarian participants made a request to the EUFMD to provide ELISA diagnostic kits for FMD (a quantity of 6000 doses) needed for the implementation of FMD serosurvey for 2002.

Item 5: Report on the Research Group meeting in Denmark

The Secretary circulated the part of the report related to the analysis of the serosurvey in Thrace. The Research group estimated that :

- The sérosurveillance carried out in Thrace after the 2000 Autumn vaccination campaign has been very useful. The reason why the level of immunity after 60 days and onwards decreased rapidly should be investigated further by Turkish authorities with the support of EUFMD and EC.
- The results of the 3ABC ELISA in Thrace are favourable. They demonstrated a 1% seroprevalence and based on this result there is a low probability of circulation of the virus in the region.
- The continuation of the serosurveillance in Turkish Thrace using the 3ABC ELISA should be encouraged and supported by EUFMD or EC.

Item 6: Regional workshop for laboratories in the region

The meeting agreed upon the importance to continue the series of National laboratories meetings/workshops which was initiated by Greece in 1998.

The next workshop will be hold in Sofia in February March 2002. The main subject will be the comparison of the results generated in the region with the 3 ABC ELISA for FMD and ELISA tests for Bluetongue. Other countries in the region could also be invited to attend.

PART II BLUETONGUE AND OTHER EXOTIC DISEASES IN THE REGION

Item 1: Situation of Bluetongue in the Mediterranean Basin

Introductory Overview

The introductory presentation described briefly development of the current bluetongue (BT) and West Nile virus situation in the countries surrounding the Mediterranean during the last four years. In contrast to earlier years which was typified by infrequent incursions of BT into the East from the Tigris/Euphrates drainage system, due to the wind-borne movement of vectors, it is now evident that the region is experiencing a major upsurge of BT. The two components of this were described as:

The Western Mediterranean: Soon after outbreaks of BT were reported from Tunisia and Algeria in 1999/2000, the disease erupted in the Balearic Islands (last affected in 1960), Corsica (for the first time), Sardinia, Sicily and mainland Italy as far north as Tuscany (reaching approximately latitude 43° N). The Balearic Islands and Sicily were reportedly free in 2001 and there were no reports from North Africa but after the winter quiescent period there was an upsurge of BT in Corsica, Sardinia, and mainland Italy (Lazio/Tuscany and Calabria) in 2001. This suggested that the virus could have overwintered. BT virus serotype 2 was the main cause although serotype 9 was also detected in mainland southern Italy.

The Eastern Mediterranean and the Balkan countries: Between June and August 1999 reports of bluetongue from the southern border area of Bulgaria signalled the start of an epidemic caused by BT virus serotype 9. Reports from Turkey and Greece soon indicated that the epidemic extended across the borders of the three countries. This was the first time that the disease had been reported from mainland Greece. In Turkey and Greece (extending westwards) outbreaks continued to occur until the end of the year. Outbreaks in the Greek islands close to the Turkish coast in Lesbos (returning after an absence of 20 years) and the Dodacenese islands (previously affected in 1998) were associated with BTV serotype 4. Turkey again reported outbreaks in August 2000 but not 2001 but although some virus activity was detected serologically in northeastern Greece in 2000, there was no associated disease in 2000 or 2001. However, outbreaks of BT in sheep were reported in the north-western part of Greece in August 2001, again on the mainland (the serotype was not stated this year but in the last three years serotypes 4, 9 and possibly 16 have been identified) and, in September, Bulgaria signalled a resurgence of disease in the west of the country close to FYRO Macedonia which also reported disease in September. At the same time there were reports of BT occurring in Kosovo and Serbia in the Federal Republic of Yugoslavia close to the borders of FYRO Macedonia and Bulgaria indicating the size of the area affected between Greece, Bulgaria and Serbia. In FR Yugoslavia outbreaks have been confirmed as far north as latitude 45°30' N.

In both the eastern and western Mediterranean foci of bluetongue virus infection, it appears that the virus could have overwintered north of its usual range and that it could now constitute a reservoir of infection for onward transmission. It is also perhaps of significance to note that vector studies conducted in Greece during the bluetongue incursion in mid 1999 failed to identify vectors of the species *Culicoides imicola*, but detected large numbers of *C. obsoletus*. The latter species is not a prime vector of

bluetongue. Studies from late August to mid-October of that same year did, however, find large numbers of *C. imicola* among collections of 19 identified species.

One reason for the changing pattern of disease which suggests itself, perhaps spuriously, is that of global warming which would be expected to extend northwards the geographic range of vectors from warmer climes. Associated with this is also the possibility that global warming will not only affect the geographic range range of vectors but also the permissiveness to virus multiplication of vectors, not normally sustaining virus transmission, might increase when reared at higher temperatures than normal[1]. Other factors could also be involved and these need to be identified and elucidated.

In addition to BT, Dr Roeder drew attention to the occurrence of West Nile fever in Israel and the Camargue region of France and also suggested that it is not only bluetongue and West Nile viruses which should be a cause of concern. There are numerous other vector-borne disease agents which should be included in considerations, especially other Orbiviruses such as the Simbu serogroup (typified by Akabane virus), the epizootic haemorrhagic disease (EHD) serogroup, African horse sickness (AHS), equine encephalosis and the Palyam serogroup. Little is known of many of these viruses in the Mediterranean/Middle East context despite the fact that Akabane and EHD viruses have been demonstrated in the eastern Mediterranean and AHS invaded the Middle East and the Iberian Peninsula in the past. The importance of EHD in cattle might well be greater than is realised. Largely anecdotal evidence from South Africa and the Far East suggest that epidemics of bluetongue-like disease in cattle can be caused by EHD. Akabane virus is well known as a cause of epidemics of arthrogryposis and hydranencephaly from transplacental infection. Another cause for concern is *peste des petits ruminants* which is widespread in the Middle East and spread recently into Turkey and Cyprus in recent years. It is remarkable that rinderpest has not featured in any emergency situations in the region since the last outbreak in Diyarbakir in eastern Turkey in late 1995/early 1996. The focus of infection from which this originated is believed to have been eliminated by the end of 1996 and there is now growing confidence through disease surveillance coordinated by the Global Rinderpest Eradication Programme that the only focus of rinderpest remaining in Asia is in Pakistan.

The Western Mediterranean

Spain: Dr Sanchez Esteban reported that there has been no recurrence of infection in the Balearic Islands in 2001 following an intensive programme of vaccination in the face of disease in 2000.

Italy: Prof Caporale presented a comprehensive report of the recent situation in Italy confirming the widespread occurrence of serotype 2 BT in insular and mainland Italy as far north as Tuscany (approximately 43° North) associated with the vector *Culicoides imicola*. He described 6,500 outbreaks in the last 'epidemic year' of 2000/2001 with 1.5 million sheep and goats being involved of which 260,000 were sick and 47,000 died; many more were slaughtered. In Sardinia alone there were about

[1] Wittmann, E.J., Baylis, M., and Mellor, P.S. (1998). Higher immature rearing temperatures induce vector competence for bluetongue virus in Culicoides nubeculosus. 4th International Congress of Dipterology 6-13th Sept, Keble College, Oxford, UK. Abstracts volume, pp. 248-249.

1900 outbreaks this year. *C. imicola* is believed to be the only vector which can sustain and transmit BT virus in the region although there is some concern over the role of *C. obseletus*. In 2001 there had been no BT in Sicily since May. Disease surveillance relied on clinical signs for sheep, considered to be very sensitive in Italy, and serology for cattle. BT was believed to have spread to mainland northern Italy by wind-borne (the *Mistral*) movement of midges from Sardinia or Corsica. On many occasions infection was thinly spread over a wide area with only a single sheep being affected in a flock without any neighbouring flocks being affected. In Calabria animal movements also appear to have spread the disease. Towards the end of 2000, BTV serotype 9 had been detected in the eastern part of Calabria in addition to type 2 in the western part. The BTV serotype 9 virus appeared to be much less pathogenic than the serotype 2. A single bovine was found positive to serotype 4 in Sicily (confirmed at the onderstepoort Veterinary Institute)but the significance of this finding is unknown.

West Nile virus had been detected in 1999 in Tuscany before its detection in France in 2000.

France: Dr Février described the continuing epizootic of BT in Corsica. Occurring first in October/November 2000, the epizootic died down during the winter to reappear earlier in 2001 - in July/August and was still ongoing with 132 outbreaks confirmed and a morbidity in the region of 10 per cent and case fatality rate of 14 per cent overall.

Item 2: Information on current epizootiological situation and control of Bluetongue in the Eastern Mediterranean and the Balkans

Greece: Following the events of 1998 to 2000, BT recurred in 2001 but in the west of mainland Greece where there were 19 outbreaks (as of 5/10/2001) close to the northern borders. This was considered to be a reintroduction to Greece after a virus-free winter. Serotypes 4, 9 and 16 have been recorded in the last three years; one apparent identification of serotype 2 is inconclusive. Clinical signs were described as mild and only lasting three to four days. Morbidity and mortality rates were was low at approximately 3.9% and 0.5% respectively after the first outbreak in which the rates were higher at 11.25% and 3.75% respectively. Thus, BT in Greece is not a significant cause of loss but it presents problems with movements of animals because of proposed EC Directives.

In the first outbreaks in 1999, *C. imicola* was not identified in midge collections which consisted of *C. obsoletus* and others. In 2001, BT virus was isolated for the first time from *C. obsoletus* but it is considered not to be an efficient vector, requiring a large population to become a significant element in transmission.

Bulgaria: Matching the events in Greece, after its introduction for the first time by July 1999, BT recurred in Bulgaria in September 2001 in the extreme west of the country; areas affected in 2000 were not affected in 2001. As part of an EC research project coordinated by the Institute for Animal Health, Pirbright Laboratory, vector studies have so far this year failed to demonstrate the presence of *C. imicola*, The prevailing species have been *C. pulicaris, C. obsoletus* and *C. fascipennis.*
In 2001 there was no recurrence of disease in the formerly-affected areas and extensive serosurveillance studies confirmed that the BT virus activity was limited to a few districts in the extreme west of the country.

Turkey: The Turkish Representative described confirmation at the Pirbright Laboratory of BT serotypes 9 and 16 in the outbreaks reported in 2000. No cases were observed in 2001, the last case having been in August 2000. Another step taken to limit outbreaks was to move sheep flocks to higher ground away from high midge concentrations. Serosurveillance is proceeding in Thrace.

Federal Republic of Yugoslavia: There have been no reports from Montenegro. The first case of BT in FR of Yugoslavia was noted in October close to the border with Bulgaria. Samples were sent to Pirbright Laboratory for confirmation. There were suspicions of BT in Serbia in June, not confirmed, followed by confirmed disease in August thought to have originated from the southern side. Most cases were close to the border but others occurred in September in the middle part. Just two days before the meeting (19th October) BT was present at latitude 44° 30' North at two sites in the west. Serology for BT will be included in the biannual serosurveillance studies conducted for enzootic bovine leukosis and sheep will also be tested. Atypical and severe storms with high winds blowing from the east were reported to have occurred several times this year.

Former Yugoslav Republic of Macedonia: BT had never been reported before 26th September when an outbreak occurred close to the border with Bulgaria in the region of Kriva Palanka in the north-east. It was confirmed in Skopje by use of the competition ELISA. BT is also suspected to be occurring in the north-west but this can not be confirmed at present. Morbidity was 16 of 300 sheep with two deaths. Signs were typical, fever to 41.6 ° C, buccal and nasal oedema, erosive lesions in the mouth and on the feet with secondary infection being noted. Further epidemiological investigations are underway.

Vaccination and control

Both Spain (Balearic Islands) and France (Corsica) employed vaccination with South African serotype 2 monovalent vaccine in 2000 but not in 2001. Italy intends to vaccinate in 2001 in areas where there is a risk of virus transmission occurring using serotype 2 vaccine in most areas and serotype 9 in eastern Calabria. Italy's objective in using vaccination is to prevent the movement of virus to the north i.e. to reduce the virus presence and its possible impact on trade.

Modified live BT serotype 4 vaccine (600,000 doses) is kept in reserve at the Etlik Central Veterinary Vaccine Control and Research Institute for use if required. The selection of this serotype was based on the finding of this serotype to be responsible for outbreaks in 1977-79. Use of this vaccine reserve was made in 1999 and 2000 and continues in 2001 with more than 574,000 sheep vaccinated this year in the area where BT occurred last year. Turkey is unsure whether or not to continue with vaccination.

In 2000 Bulgaria fought the disease outbreaks by a combination of movement control, topical application of insect repellent and insecticide in addition to vaccination with a pentavalent vaccine (from Onderstepoort Veterinary Institute) provided by the EC.

Greece is strongly opposed to the use of vaccine and the representative referred to indecision as to the safety and efficacy of vaccination. He welcomed issuance of an

EC tender for safety and efficacy testing of BT vaccines. Greece is already implementing the provisions of the proposed EC Directive on BT which designates 20 km infected and 50 km stand-still zones. Insect repellents and movement regulation are the other key control elements.

Item 3: Situation of other exotic diseases in the region

With respect to EHD, infection is endemic in the southern part of the USA, Dr Pearson stated, yet clinical signs are not seen. However one should note the occurrence of Ibaraki disease in the Far East which illustrates a potential problem. Extensive serosurveillance has been conducted systematically in Greece since 1998 and has not detected any EHV infections. Dr Pearson also mentioned that most of the world considers itself to be free from Akabane virus but no-one is looking for evidence of infection. Most participants were unaware that Akabane outbreaks had been experienced in Turkey in the late 1970s.

As for BT, all serosurveillance in Greece for PPR and sheep pox has proved negative but one single outbreak of sheep pox occurrred in 2000. Greece is also conducting routuine serosurveillance for rinderpest in slaughter houses.

Turkey confirmed the presence of PPR and and their concern over its continued existence.

Discussion

The issue of vaccination generated some discussion. On the one hand, it was suggested that its use in 2000 had effectively eliminated BT from the Balearic islands and from areas of Bulgaria affected in 1999. On the other hand, it was pointed out that vaccination did not clear Corsica and that north-eastern Greece has been to all intents and purposes for the last two years despite the fact that vaccine was not used. When asked if the EC had a policy about the use of BT vaccine – i.e. whether vaccine should be used prophylactically or to control existing outbreaks – Dr Février indicated that vaccination of sheep remains a useful tool to reduce (or prevent) morbidity and mortality in this species in infected areas (or those threatened by infection) even if it does not strictly prevent an extension or persistence of virus circulation.

The involvement of wildlife in BT outbreaks and maintenance in Europe was raised because of the large populations of deer but there is little information as to their involvement.

Dr Pearson indicated that the trade implications of BT make it appropriate for the organisation to sponsor a meeting on BT. He added also that one can never predict in the USA when the disease will appear and when it will disappear again. He also believed that it is very possible that the infection has not become permanently established in the areas in which BT has recently been experienced.

With respect to EHD, infection is endemic in the southern part of the USA yet clinical signs are not seen. However one should note the occurrence of Ibaraki disease in the Far East which illustrates a potential problem.

Greece referred to the launching this year of an EC-supported project for the entire Mediterranean Basin to study vector distribution in order to develop risk maps, direct BT surveillance and formulate policies. The first Coordination Meeting will be held in Madrid in December.

There was a consensus of opinion that there are too many gaps in information on BT virus and vector distribution at present to fully understand what has been happening. There is clearly a need to strengthen surveillance in the region, not only for BT but for all high risk transboundary animal diseases. FAO was requested to explore the possibility of developing a proposal for assistance, through the FAO Technical Cooperation Programme, for the countries of the eastern Mediterranean and the Balkans. FAO should continue proactively to support coordinated disease surveillance in this region.

Annex I

List of Participants

Bulgaria

- Dr.Pencho Kamenov, Director "Animal Health, animal identification and animal welfare", NVS
- Dr. Ilian Boikovski, Chief expert, NVS
- Dr.Boiko Likov, Director "International relations, veterinary legislation and Eurointegration", NVS
- Dr.Georgi Georgiev, Head of "FMD and exotic diseases Laboratory", NVS
- Dr.Nedelcho Nedelchev, for Director "National Diagnostic and Research Veterinary Institute", NVS
- Dr.Krasimir Zlatkov, Director "Control of VMP", NVS

FYR Macedonia

- Dr Zoran DANEVSKI, Director of Veterinary Services, CVO
- Dr Toni KIRANDZISKI, Head Animal Health Unit

Greece

- Dr V STYLAS, Chief Veterinary Officer
- Dr D. PANAGIOTATOS, Head of section and Member of EUFMD Executive Committee

Turkey

- Dr H. Hüseyin POLAT, Deputy General Director
- Dr Mustafa TUFAN, Director of Epidemiology and Information Section

FR Yugoslavia

- Prof.Dr.DOBRIC, Veterinary Faculty Zagreb
- Dr Milena SIMIC, Federal Ministry of Agriculture
- Dr Milos PAVLOVIC, CVO, Serbia

OIE

- Dr J. PEARSON, Head Scientific and Technical Dep. OIE, Paris
- Dr N. BELEV, President of Regional Commission for Europe and Regional Co-ordinator of OIE for Eastern Europe

EC

- Dr Jacques FEVRIER, Health & Consumer Protection Directorate General, SANCO Legislation on animal health and live animals
- Pf Vincenzo CAPORALE, Director IZS Teramo, Italy

FAO

- Dr Peter ROEDER, Animal Health Officer (Virology)

EUFMD

- Dr. Ignacio SANCHEZ ESTEBAN , Chairman
- Dr. Yves LEFORBAN, Secretary

Annex II

AGENDA

PART I : FMD

Item 1

FMD situation in Turkey	Turkey
Vaccination in Turkey	Turkey
2001 Autumn vaccination campaign in Thrace Turkey/EUFMD	
Serosurveillance in Thrace	Turkey
Report on the TCP Iran and Turkey	Turkey

Item 2

FMD surveillance in Greece	Greece

Item 3

FMD surveillance in Bulgaria	Bulgaria

Item 4

Strategy and support for FMD Control in the region	EUFMD

Item 5

Report on the Research Group meeting in Denmark	EUFMD

Item 6

Regional workshop for laboratories in the region Bulgaria/Greece/Turkey

PART II: Bluetongue and other exotic diseases

Item 1

Situation of Bluetongue in Mediterranean Basin - introductory overview	Dr P. Roeder
Situation in the Western Mediterranean	
▪ Spain	Dr I. Sanchez Esteban
▪ France	Dr J. Février
▪ Italy	Dr E. Caporale

Item 2

Information on current epizootiological situation and control of Bluetongue in the Eastern Mediterranean

▪ Greece	Dr D. Panagiotatos
▪ Turkey	Dr M. Tufan
▪ Bulgaria	Dr I. Boikovski
▪ FR Yugoslavia	
- Federal Veterinary Service	Dr Dobric
- Serbia	Dr M. Pavlovic
▪ FYRO Macedonia	Dr Z. Danevski
▪ Albania	

Item 3

Situation of other exotic diseases in the region - discussion

Annex III

Guidelines for regional approach/programme to FMD Control in Balkan countries

Framework / background:

1) The need to establish such guidelines was identified by the Tripartite Group held in Istanbul on 20 October 2000. It is based on the observation that despite the tripartite meetings held each year between representatives of the three countries, few practical actions regarding regional co-operation take place as follow up to the meetings.

2) The recent improvements in the political relations between the countries in the region - breaking of the iron curtain, improvements of political relations between Greece and Turkey - did not lead to significant improvement of regional co-operation at the field level, although bilateral agreements have been signed between the Ministers.

3) The three countries work with a similar objective which is to prevent and to combat FMD and other exotic diseases. However they use different legislation's and rules to achieve this objective

Objectives:

1) To define a framework in which the three countries should work with the ultimate goal of preventing FMD and other exotic diseases entering the region / or reducing the risk of introduction

2) To determine the goals and actions which should be pursued/achieved in individual countries and by the three countries.

This frame work is not exclusive of other ad hoc bilateral arrangements between the countries on particular or local aspect (border agreements)

Programme components:

Zones/Area concerned

- Bulgaria: Haskovo, Yambol and Burgas districts
- Greece: Evros Prefecture
- Turkey: Kirklareli, Tekirdag, Edirne, European part of Canakkale and Istanbul Provinces

Turkey proposed that Eastern Anatolia Zone: Border provinces would also be included.

Animal identification

- Marking (notching) or identification by ear tag of small ruminants in the 10 km zone along the borders
- Full identification of ruminants in the all areas is preferable

Clinical surveillance

An active surveillance programme - including active clinical surveillance should be carried out in the region and the results should be made available to the concerned countries.

Serosurvey

- Inform in advance neighbouring countries and international organisations of the programme for serosurvey and of the results.
- Routine serological surveys for monitoring vaccinations - when practised - and for the detection of antibodies against non-structural proteins should be done and the results can be shared.

Reporting

- Early reporting of outbreaks to OIE, EUFMD, EC and neighbouring countries.

Disease reporting and exchange of information at regional level

- Regular meetings should be planned between regional (provincial) veterinary services and regular bilateral visits may be planned to increase confidence between veterinary services in the three countries.

Disease reporting and international notification

To copy to the two other countries the reports addressed to OIE.

Vaccination

Inform in advance neighbouring countries of vaccination programmes in border districts/Provinces/Prefectures.

Contingency plans

- Each country should prepare contingency plan. These plans can be shared between countries.
- A copy of each plan should be provided to the neighbouring countries and updating should also be reported to the neighbours.

National laboratories

The series of workshops between national laboratories in the Balkans will be continued. Other countries in the region and other exotic diseases could also be included.

Annex IV

TOR for the FMD Mission to Turkish Thrace to evaluate the FMD situation and assess the Autumn vaccination campaign

Participants:
- EUFMD Secretary or Expert*
- One Bulgarian FMD expert
- One Greek FMD expert
- Turkish FMD experts

(*) the expert should be involved in practical aspects of the surveillance.

Date / Duration
One week at the end of November 2001.

Route of the mission
Istanbul – Kirklareli – Edirne – Istanbul – Ankara
The mission will pay particular attention to the border areas and visits to Bulgarian and Greek sides of the border could be included on an *ad hoc* basis.

Objectives of the Mission
1- Assess progress in implementing the vaccination campaign of 2001 with vaccine supplied by EUFMD/EC.
2- Contribute to defining the apparently sub-optimal immune response in the 2000 campaign in Thrace and the reasons for its occurrence, and propose corrective measures.
3- Contribute to the finalisation of the requested TCP project on Infectious Transboundary Disease Surveillance in the Balkan Region – Bulgaria, Greece, Turkey.

Project for "Foot-and-Mouth Disease Surveillance" in Central Asia

François Geiger, DGAL, Toulouse, France

Background

The bilateral veterinary cooperation promoted by the French Ministry of Agriculture since October 1996 has allowed to develop real institutional relations between National Veterinary Services in France and Iran in the following domains:
- training session in France (epidemiology and diagnostic of FMD),
- seminars and technical meetings on FMD in Iran,
- technical assistance trainees/trainers in Iran.

This thematic cooperation involved veterinary administrations, veterinary universities and diagnostic and research laboratories.

The implementation of this programme demonstrated the strong involvement of both Veterinary Services on this subject and their ability to work together, both with other partners (Razi Institute, Veterinary Faculty of Tehran, Agence Française de Sécurité Sanitaire des Aliments, etc...) as well as in relation with other projects (FAO Technical Cooperation Project on FMD between Iran and Turkey).

Both Services recently submitted to the French Embassy in Teheran a joint project for the establishment of a "buffer zone" of vaccination against FMD at the borders with Afghanistan, Iraq, Turkmenistan.

All these elements together with the key geographical situation of Iran as one of the main routes for animal between Asia, Europe and Arabic Peninsula justify the proposal to set up a Foot-and-Mouth Disease Surveillance Project for Central Asia in Iran.

Objective of the project

European post of observation enabling a FMD surveillance system, with:
- centralisation and circulation of information on FMD in the region,
- assessment of effectiveness preventive vaccination in the region,
- rapid alert toward neighbouring and European countries in case of risk of spread of the disease from the region.

Brief description of the project

The "Foot-and-Mouth Disease Surveillance Project" could be established as an independent structure within the Iranian Veterinary Services (Ministry of Agriculture and of Jihad – Iranian Veterinary Organisation) or within a regional organisation (E.C.O).

Its goal would be:
- to analyse the epidemiological data collected in Iran and in the country taking part in the project (monitoring of the outbreaks, identifying and tracing sources of contamination, follow-up of vaccination campaigns),
- to carry out a surveillance of viral strains based on the collected samples which will be tested at the Central National Laboratories of Karaj (Iran) and of Ankara (Turkey) and if necessary at the AFSSA (Lyon France) and at the WRL (Pirbright, UK) including the census of the strains circulating and their features for molecular epidemiology,
- to establish a sentinel veterinary network in sensitive areas at the Iranian borders,
- to guarantee a follow-up to the FAO TCP project for FMD control and surveillance started in 2000 and 2001 in Iran and Turkey,
- to circulate the information collected in every country taking parts participating in the project.

Technical and financial aspects of the project

Step 1 : to organise a joint EU/FAO/France expert mission in January/February 2002 to identify the project and carry out the feasibility study,

Step 2 : to propose the project to EU and other organisations for funding.

Appendix 9

Report of the Session of the Research Group of the Standing Technical Committee of the European Commission for the Control of Foot-and-mouth Disease Island of Moen, Denmark, 12-15 September 2001

Kris De Clercq

Participants:

Kris De Clercq (Belgium), Aldo Dekker (the Netherlands), Franco De Simone (Italy), Chris Griot (Switzerland), Bernd Haas (Germany), Per Have (Denmark), Francois Moutou (France), Vilmos Palfi (Hungary), José Sanchez-Vizcaino (Spain), Nilay Unal (Turkey), Hagai Yadin (Israel)
Soren Alexandersen as representative from the World Reference Laboratory
EC observers: Alf-Eckbert Fuessel, Jurgen Westergaard. Observers attended for Turkey and the WRL.

Conclusions and recommendations for following items:

Item 1 - General information on the FMD situation in the World

Countries that had been free of the disease for long periods of time have had to cope with introductions of virus and the subsequent difficulties of disease eradication. The restrictions associated with the measures taken to control the disease have had severe societal and economic impacts. In Europe this was also the case for free countries distant from the outbreaks.

Massive outbreaks of FMD caused by an A strain in South America have necessitated the return to mass prophylactic vaccination in Argentina and Uruguay. The complex situation with 3 distinct A strains circulating in the Middle East and Turkey continues to make control efforts difficult in this region. Turkish Thrace experienced its first outbreak since 1996, with type O affecting a goat farm in Tekirdag province. The disease has been rapidly controlled by ring vaccination.

- Sequencing of the virus isolated in United Kingdom, France and the Netherlands indicated that the outbreaks were due to the same strain of virus.

- International trade in live animals (livestock, exotic pets, game species, zoo animals) and of animal products in most regions of the world is increasing. This remains the primary risk for the spread of FMD particularly because there is a general neglect of biosecurity issues when driving trade liberalisation measures forward.

- The deterioration of national veterinary services in many countries due to under-staffing and cut-backs in resources seriously undermines their ability to quickly uncover an exotic disease problem and respond appropriately.

- All European countries should recognise the increased risk of FMD and take advantage of the lessons learned by the affected member countries to improve their contingency planning and prevention measures for FMD.

Item 2 - Reports on the outbreaks in Europe

- Based on the experience in the UK further research on FMD in sheep is encouraged.

- Contingency plans should be prepared for at risk situations or zones. EC legislation should include measures for pre-emptive culling. Methods for culling and disposal of carcasses should take into account the status of animals destroyed i.e infected farms, contact, vaccinated etc.

- Exchange of epidemiological and laboratory information between European countries and with international organizations should be encouraged. EUFMD should play a keyrole in this.

- A procedure to ensure availability of a large quantity of reagents in case of major outbreaks in Europe should be developed, possibly in cooperation with private companies. The creation of a reagent bank is a possibility.

- The situation where a major FMD outbreak occurs in the country of the laboratory designated as the European Reference Laboratory should be foreseen.

- Methods and criteria for surveillance to regain FMD free status should be better specified in order to be included in the OIE Zoo Sanitary Code.

- Implementation of the existing European legislations on identification of animals should be reinforced.

Item 3 – Reports on field and laboratory experiences during the crisis in Europe

- Media have had a major role in the recent epidemic and a better harmonisation of the messages to be addressed to the public opinion at the European level should be encouraged. EUFMD should play a coordinating role in this respect.

- FMD laboratories in Europe should ensure that they use the most sensitive cells for virus isolation of all FMD strains. There is a need for ring testing to be organized for virus antigen detection between FMD Reference Laboratories in Europe.

- Several countries used the 3ABC ELISA for screening of the samples collected from imported animals. The specificity of the 3ABC ELISA(± 99.7) was superior to the specificity of the tests for antibodies against structural proteins such as the LPBE. There is a need for reference sera for these tests.

- For detecting antibodies against structural proteins the LPBE should be replaced by the SPCE.

- The results of the testing serum should be related to different reference sera as the selected cut-off serum is causing problems in several laboratories.

- In case of doubful serological results, second sampling of the same animal and other nearby animals is recommended.

- Most countries used RT-PCR next to standard virus isolation. The use of RT-PCR could shorten the time needed for diagnosis. Standard references for RT-PCR are necessary.

- Before a sampling scheme is implemented one should identify the purpose of the test. A distinction has to be made between surveys looking for the presence of virus at a certain prevalence or surveys for declaring freedom of infection.

- There is a need for harmonization of the rules of movement of horses and of certification in Europe in the case of an FMD outbreak.

Item 4 - Special session on new kits by private companies and IAEA

- Commercially produced complete test kits are now available. This allows to increase the testing capacity to the level required for whole herd testing of vaccinated populations. These tests have been validated extensively for cattle and also for sheep; less validation data have been generated for pigs. The tests are suitable for differentiation between vaccinated and infected animals on a herd basis, but will not reliably identify individual carrier animals in a vaccinated population. Further studies correlating the antibody response to structural and non-structural proteins in sera and other types of samples with virus isolation and PCR data in carriers should be performed; these parameters should also be examined in pigs.

- Modern well purified vaccines will not induce antibodies to NSPs.

- Preliminary data indicate that most current tests may not be suitable for sera of wildlife species, new domestic species such as llamas, and certain breeds of buffaloes. Competition/inhibition assays may overcome this problem.

- There are differences in the relative analytical sensitivity and diagnostic sensitivity and specificity of the available assays. Further results on the performance of the existing NSP tests should be reported in the future.
  A reference serum bank characterizing different epidemiological situation should be established, which contains sera of relevant species in sufficient quantities for reference and developmental purposes.
  The experience of the IAEA revealed the importance of training and quality control for the application of NSP serology.

- The use of these tests in vaccinated populations should be encouraged in order to reveal cases of FMD that had not been detected by clinical inspection, increase confidence in the effectiveness of eradication measures and gather experience with the tests in various epidemiological situations.

Item 5 - Serosurveillance

- Clear guides for FMD surveillance in Europe in different circumstances combining clinical and serological surveillance should be established in coordination with OIE. Results of a serological surveillance following the vaccination in Thrace region in 2000 were presented. Sera obtained from three different sets of animals were tested by a liquid phase blocking ELISA. Although a high level of immunity was observed at 28 days post vaccination, a rapid decrease was observed in the immunity levels after 60 days onwards especially against types O and Asia 1. The reason why the level of immunity after 60 days and onwards was decreased rapidly should be investigated further by Turkish authorities with the support of EUFMD and EC.

- The use of NSP ELISA in serosurveillance should be encouraged. Results of a 3ABC ELISA serosurvey conducted with the sera obtained from Thrace after vaccination were presented. In this study a total of 2,639 sera were tested. The results showed that 1% of the sera were positive. Based on this result there is a low probability of circulation of the virus in the region. The positive sera might be as a result of false positives or an indication of previously infected animals that might have been introduced into Thrace from Anatolia. The continuation of the serosurveillance in Turkish Thrace using 3ABC ELISA should be encouraged and supported by EUFMD or EC.

Item 6 – Subclinical infection

- Sheep are frequently subclinical infected and FMD virus can persist in this species. If sheep are involved in a FMD outbreak an adequat serological screening must be performed.

Item 7 – FMD diagnostics

- Two different automated RT-PCR systems have been evaluated. They were up to 10 times more sensitive than virus isolation and allowed 64 samples to be tested per working day. A second passage in cell culture can be avoided if RT-PCR were positive in the first passage. Contamination can still be a problem.

Item 8 – Pathogenicity

- The results of airborne virus transmission studies confirm that pigs compared to cattle and sheep are relatively resistant to infection by airborne FMDV. The findings indicate that the risk of airborne transmission from pigs will vary depending on the specific virus isolate: The amount of virus (in $TCID_{50}$) emitted per pig per 24 hours was $10^{5.8}$ for FMD viruses O1 and $10^{7.6}$ for C Noville. The risk of aerosol transmission from pigs is variable but significantly high therefore infected pigs should be eliminated as soon as possible.

- Infected sheep excreted around $10^{4.3}$ $TCID_{50}$ / 24 hours and airborne excretion picked on a single day vary easily after infection. Virus as well as viral RNA were detected in probang samples collected at 4 weeks after exposure.

Item 9 - Risk analysis and expert elicitation

- A paper was presented on the risk of importing exotic animals into Switzerland, holding them in a USDA, APHIS approved transit quarantine for 30 days before continuing their transportation into the USA. A formal risk analysis defined as a process consisting of risk assessment, risk management and risk communication was implemented at the Swiss Federal Veterinary Office. The calculated risk of introducing a false negative animal (e.g. FMDV infected animal) was estimated to be 5×10^{-6} which is higher than the accepted probability of 10^{-6}.
  It was concluded that exotic animals which are foreseen for transit quarantine should be handled the same way as for definitive import. International standards of laboratory testing should be considered when interpreting test results from the country of origin.

- EUFMD should continue to pursue a risk assessment by performing a detailed study of trade flows in animals and animal products and movements of people and other goods and conduct an expert elicitation.

Item 10 - Vaccines and antigen banks

- Antigenic characterization of recent type O viruses circulating in Turkey was doen at the SAP institute (Turkey) and showed that although some viruses gave low r values there is field evidence that these viruses can be covered by O Manisa vaccine. This information makes the need for inclusion of new type O in the bank less necessary. The group agreed that Challenge test should be organized to assess the protection of O1 Manisa vaccine against recent isolates from Turkey. In general the utilization of vaccine with high payload antigen content is encouraged to give

an adequate protection against new variants which may appear.

- The list of viral strains to be included in the banks as proposed by the World Reference Laboratory is endorsed by the group.

- A novel formulation procedure able to extend the shelf-life of FMDV emergency vaccines was described. The method involved preparing an oil vaccine with all ingredients into vials and storage of this formulation at ultra-low temperature until use. Experiments in guinea pigs indicated good long-term stability characteristics.

Item 11 - European pharmacopoeia

The results of the meeting with Group 15 V of the Eur.Phar. and with the CVMP/Immunologicals Working Party of EMEA were reported. The purpose will be to write a new monograph and to draft guidelines on safety, quality and efficacy of FMD vaccine production and on the introduction of new FMD strains.

Other items

Nilay Ünal from Turkey confirmed the intention to hold the next meeting of the Research Group in Izmir, Turkey. The provisional dates are from 18 to 20 September 2002. Chris Griot confirmed the intention of having the RG meeting in Switserland in 2003.

Appendix 10
STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 30 September 2001

	US$	US$
Balance as at 1 January 2001		195,665
Interest received	5,196	
Contribution from member countries (As per statement 2)	272,986	278,182
Expenditure		
Commission Secretary	94,498	
Consultant	4,601	
Admin. Support Personnel	31,206	
Contracts	21,200	
Duty Travel	19,738	
General Operating Expenses	14,485	
Expendable Equipment	869	
Non-Expendable Equipment	-	
Total Expenditure		-186,597
Balance as at 30 September 2001		287,250

STATEMENT 2

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

Status of Contributions as at 30 September 2001
(expressed in US$)

Member Governments	Outstanding 31/12/00	Contribution due for 2001	Received up to 30/09/01	Outstanding 30/09/01
ALBANIA	25.00	2,600.00	2,600.00	25.00
AUSTRIA	0.00	7,800.00	7,800.00	0.00
BELGIUM	0.00	13,000.00	13,000.00	0.00
BULGARIA	0.00	7,800.00	0.00	7,800.00
CYPRUS	2,600.00	2,600.00	0.00	5,200.00
CROATIA	5,200.00	2,600.00	5,191.00	2,609.00
CZECH REPUBLIC	0.00	7,800.00	7,800.00	0.00
DENMARK	0.00	13,000.00	13,000.00	0.00
FINLAND	0.00	7,800.00	7,800.00	0.00
FRANCE	0.00	26,000.00	26,000.00	0.00
GERMANY	0.00	26,000.00	26,000.00	0.00
GREECE	0.00	7,800.00	7,800.00	0.00
HUNGARY	0.00	7,800.00	7,800.00	0.00
ICELAND	2,600.00	2,600.00	2,600.00	2,600.00
IRELAND	20.00	7,800.00	7,800.00	20.00
ISRAEL	0.00	2,600.00	2,600.00	0.00
ITALY	5,033.42	26,000.00	0.00	31,033.42
LITHUANIA	0.00	2,600.00	2,600.00	0.00
LUXEMBOURG	0.00	2,600.00	2,600.00	0.00
MACEDONIA, The Former Yugoslav Rep. of	2,615.00	2,600.00	0.00	5,215.00
MALTA	0.00	2,600.00	2,595.22	4.78
NETHERLANDS	0.00	13,000.00	13,000.00	0.00
NORWAY	-7,800.00	7,800.00	0.00	0.00
POLAND	0.00	13,000.00	13,000.00	0.00
PORTUGAL	0.00	7,800.00	7,800.00	0.00
ROMANIA	0.00	13,000.00	13,000.00	0.00
SLOVENIA	0.00	2,600.00	2,600.00	0.00
SPAIN	0.00	13,000.00	13,000.00	0.00
SWEDEN	0.00	13,000.00	13,000.00	0.00
SWITZERLAND	0.00	13,000.00	13,000.00	0.00
TURKEY	0.00	13,000.00	13,000.00	0.00
UNITED KINGDOM	0.00	26,000.00	26,000.00	0.00
YUGOSLAVIA, Fed. Rep. of	75,661.30	7,800.00	0.00	83,461.30
TOTALS	85,954.72	325,000.00	272,986.22	137,968.50

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 30 September 2001

	US$	US$
Balance as at 1 January 2001		43,168
Interest received		779
Expenditure		
Consultancy	3,900	
Duty travel	371	
Expendable Procurement	0	
Support Costs	256	
Total expenditure		4,527
Balance as at 30 September 2001		**39,420**

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 30 September 2001

	US$	US$
Balance as at 1 January 2001		218,878
Interest received	6,110	
Contribution received	773,596	
		779,706
Expenditure		
Consultancy	-	
Duty Travel	15,471	
Contracts	15,000	
General Operating Expenses	3,204	
Expendable Equipment	672,340	
Non-Expendable Equipment	-	
Support Costs 6% (on all items except expendable equipment)	2,179	
Less: Total Expenditure		703,836
Balance as at 30 September 2001		**294,748**

REPORT ON THE JOINT EUFMD/EC WORKSHOP ON FOOT-AND-MOUTH DISEASE SIMULATION EXERCISES

5 – 7 June 2001 - Brno, Czech Republic

Introduction

A workshop, jointly organised between EUFMD and the EC, was held in Brno, Czech Republic on the 5-7 June 2001. Experts from EUFMD, the EC and from the following member countries were present: Belgium, France, Germany and the Netherlands. The workshop was very well attended with 49 participants representing 23 countries that included every Eastern European country (with the exception of Slovakia), the Baltic States, Cyprus, Malta and Iceland.

Timetable

Day 1 of the workshop was a desk-based session where the invited experts presented the FMD situation in Europe and other regions; the major risks of FMD introduction to Europe and the lessons to be learned from the 2001 outbreaks in Western Europe; the situation in UK, the Netherlands and France; the measures taken to prevent the introduction of the disease in Germany, Belgium and Austria; the FMD Legislative Measures taken by the EC; Contingency planning in EC; and Austria and the Czech Republic presented their Contingency plans.

Day 2 of the workshop was an on-farm exercise where the Czech Veterinary and Emergency Services demonstrated all the practical steps involved in responding to a suspicion of Foot-and-Mouth Disease. On the farm in the district of Znojmo that was chosen for the simulation, the following practical demonstrations took place:
the correct bio-security procedures for entering and exiting a suspect farm;
how to conduct clinical examinations of animals (with live cattle, sheep and pigs);
the correct procedures for taking and packaging samples for laboratory submission;
the techniques and equipment for slaughtering animals on-site (the animals examined above were humanely slaughtered on site with captive bolt pistols, and electrical stimulation);
the techniques and equipment for transporting the carcasses to a rendering plant while maintaining biosecurity en route;
the special equipment designed for the disinfection and cleaning of personnel, vehicles and equipment.
In an afternoon desk-based session, a very detailed presentation and Questions-and-Answers (Q&A) session took place. The measures to be taken (i) in the protection and surveillance zones, (ii) in the country as a whole and (iii) in co-operation with neighbouring countries (particularly Austria, because the farm chosen for the simulation was very close to the Austrian border) if the samples taken in the morning session proved to be positive were discussed in great detail.

On *Day 3*, the participants made presentations detailing the contingency plans of their home country and in addition there were presentations on emergency vaccination, the management and structure of the outbreak response, carcass disposal, modelling airborne spread and computers as an aid to disease management.

Conclusions

The FMD situation outside and inside Europe and the control measures applied in relation with outbreaks within the EU were reviewed.
The rapid movements of live animals and products of animal origin between different regions of the world and within countries and regions add to the risks of unexpected FMD outbreaks.
Contingency planning was reviewed and many individual contingency plans were presented. The key aspects of contingency planning were consistently highlighted, in particular:
Disease awareness - the importance of the relationship between farmers and veterinarians and the degree of education and training of the veterinarians.
Disease preparedness –including the legal basis for action, the importance of the contingency plan and the importance of using other national organisations such as the army and civil defense.
Rapid response – to disease outbreaks with abilities to eradicate FMD including provisions for emergency slaughter and emergency vaccination
Communication – the importance of communications
The simulation exercise carried out on a farm situated in the district of Znojmo was very well prepared and implemented. The control measures to be established in the event of an FMD outbreak linked to the exercise scenario were presented in a comprehensive way and the time table drawn up for the establishment of and enforcement of measures indicated that measures would be in place within hours.

Recommendations

1. It should be guarantied in all European/participating countries, that they have:
    - Equal abilities to detect and to control FMD,
    - An emergency plan where all necessary activities, funds, manpower, heavy machinery etc. are written down in such a way that the plan is a reliable document to organise control measures for FMD,
    - Either the country concerned based on national laboratory capacity or based on a contract with an other country have the possibility to get within a short period a positive diagnosis and a confirmed negative result in accordance with the protocol of the laboratory.
    - Awaiting results from the laboratory the authority sending the sample should arrange for appropriate preventive and control measures.
2. To reach and to keep the ability to detect and to control FMD the veterinary service must make clear that combat against the disease is a task for the whole society (industry, government). An outbreak of FMD may destroy the competitiveness of the national economy of every country involved for a long time. As learned from the FMD events of this year a sufficient number of trained experts in the public veterinary services and support by appropriate authorities such as the police/army are decisive.
3. It is necessary to have regular training of official veterinarians in the field of FMD control. This training should be done in two ways:
    - To train the strategy of control for leading veterinarians and staff from other governmental authorities concerned how to organise things in a region and how to co-operate with the industry and local authorities,
    - How to do the control on a farm or village level. Simulation exercise must be carried out to train staff in the procedures for carcass disposal. This exercise must train staff in decision-making for carcass disposal by including a process to accurately measure the real-life capacity of different disposal options and compare these measurements to the disposal needs generated by different scenarios.

4. Measures to reduce the free movement of people in the case of FMD seems to be an important point to improve the control regime.

5. Funding should be found to support the recommendations of this meeting by:

   - Organising seminars and workshops on topics about implementation of contingency plans. The exchange of practical information about the implementation between the pre-accession countries is highly valuable,
   - Organising regularly simulation exercises.

6. There is no reason to come back to a policy of preventive vaccination against FMD. But every country should be prepared (vaccine, syringer, other equipment, veterinarians) to do emergency vaccination if necessary.

7. Contingency plans should include a section on information which ensures that a clear communication message is given the whole society, including the media, about the content and the challenges of the plan.

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