RAPPORT

COMITÉ EXÉCUTIF

Istanbul,
République de
Turquie,
15 et 16 juin
2006

de la Commission Européenne de Lutte contre la Fièvre Aphteuse

Soixante treizième Session

73ème

SESSION

du

COMITE EXÉCUTIF

de la

Commission Européenne de Lutte contre la Fièvre Aphteuse
(EUFMD)

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RÉSUMÉ ET RECOMMANDATIONS

Le Comité Exécutif de la Commission européenne de lutte contre la Fièvre Aphteuse (EUFMD) a tenu sa soixante treizième session à Istanbul, République de Turquie, les 15 et 16 juin 2006.

Les membres du Comité Exécutif présents étaient : le Dr Peter de Leeuw, Pays-Bas (Président par intérim) ; le Dr Eugen Olaru, Roumanie, remplaçant le Dr Predoi ; le Dr Nihat Pakdil, Turquie ; le Dr Torben Grubbe, Danemark, remplaçant le Dr Willeberg et le Dr Basilios Batziliotis, CVO de Grèce. Etaient présents, parmi les observateurs: le Dr Kris de Clercq (Belgique), Président du Groupe de recherche et deux membres du Groupe ; le Dr Alf-Eckbert Füssel, Chef de secteur, DG-SANCO, Bruxelles ; Mle Nermin Kahraman, Délégation de la CE, Ankara ; le Dr Gidéon Bruckner, Chef du département scientifique de l'OIE. La FAO était représentée par le Dr Joseph Domenech, Chef du service de la santé animale.

La session considéra la situation actuelle du risque et les évènements épidémiologiques récents dans la région, et a revu l'avancement des actions, ainsi que prévu par le Plan stratégique pour 2005-08 approuvé par la 72ème session.

On est parvenu aux recommandations suivantes :

Considérant que :

1. Les pays membres de la Commission EUFMD ont été soumis au risque ou directement affectés par l'invasion régionale récente de virus de type A en Turquie et en Egypte, et dans d'autres parties du Moyen-Orient ;
2. La Turquie a été très sévèrement affectée par l'invasion rapide et l'impact d'un nouveau sérotype du virus A (A Iran 05) à la fin de 2005, lequel a continué à diffuser en 2006 et circule toujours en Turquie et en République islamique d'Iran ; il a été détecté au Pakistan et en Arabie Saoudite en 2006 ;
3. L'extension supplémentaire des virus A Iran 05 et A Egypte 06 à d'autres pays du Moyen-Orient est probable en 2006 ;
4. Le type O reste endémique au Moyen-Orient, et Asia-1 dans les régions plus à l'est ;
5. La situation dynamique de la maladie réclame un suivi continu, non pas seulement à cause de la première détection de nouvelles souches à l'intérieur des pays plutôt qu'aux frontières, et à cause des mouvements commerciaux rapides des animaux ;
6. La circulation d'autres types A dans la région continuera probablement en 2006 étant donnée la détection des types génétiques d' A Iran 96, A Iran 87 et A Iran 99 circulant dans des sites apparemment restreints en Turquie et/ou en Iran en 2005 ;
7. Le type A Egypte 06 ne correspond pas complètement aux stocks de vaccins et d'antigènes détenus par les banques nationales ou internationales ;
8. L'absence d'alerte précoce sur la situation au Moyen-Orient a contribué à l'ampleur de l'épidémie de type A vécue dans la région en 2005-6, et a retardé la réponse internationale à la situation ;
9. La fourniture rapide de réserves d'antigène de A 22 à la Turquie par l'UE, et son administration en Thrace a contribué au contrôle de l'épidémie ;
10. La vaccination autour des foyers primaires de type A en Anatolie en 2005 n'a pas pu être exécutée comme une opération de contrôle d'urgence à cause de la déclaration tardive de l'identification du problème posé par le virus A Iran 2005 ;
11. Le génotype A Iran 05 du virus de la FA s'est révélé hautement invasif et a causé une maladie sévère chez les bovins de tous âges, bien que cela apparaisse moins intense là où de hauts niveaux d'immunité au type A existaient antérieurement;
12. Les circonstances épidémiologiques qui autorisent la persistance des différents virus de type A ne sont pas claires et, de ce fait, on devrait accorder une attention spécifique continuelle aux foyers de type A;
13. La localisation et le risque provenant d'autres virus exotiques, y inclus le type A Egypte 06 devraient être suivis de très près par chaque pays ;
14. La situation d'Asia-1 apparaît comme favorable en Iran et dans la région à l'heure actuelle, mais la situation dans une région élargie, comprenant le Pakistan, le centre et le sud de l'Asie, et d'autres régions qui sont la source d'animaux et potentiellement de virus de la FA en direction du Moyen-Orient et de l'Europe ;
15. Des progrès ont été réalisés dans la validation des tests NSP pour les espèces majeures, mais que l'expérience en matière de plan de surveillance après des foyers de FA manque à de nombreux pays et qu'il est nécessaire d'avoir confiance dans l'identification et la résolution totales des lacunes techniques ;

16. Il est nécessaire que les Instituts nationaux de recherche européens échangent sans délai des souches de virus de référence afin de préserver leur vivacité pour détecter les souches virales émergentes ;

Recommande que :

1. La Commission EUFMD organise, avec l'OIE, davantage de réunions régionales afin d'aider à l'amélioration de l'évaluation du risque et à la sélection de stratégies vaccinales et d'autres mesures préventives pour les pays membres de l'EUFMD et leurs voisins du sud-est de l'Europe ;
2. Plus d'efforts soient consacrés à l'harmonisation des normes pour le typage du virus et l'appariement des vaccins, et pour le suivi des programmes de vaccination, particulièrement dans les pays à risque ou affectés par les épidémies récentes dues au type A.
3. L'échange de souches de référence de virus de la FA entre les laboratoires nationaux de référence d'Iran et de Turquie, et entre ceux des pays membres de l'EUFMD soit considéré comme un bien public essentiel pour l'amélioration de la capacité de poser un diagnostic ainsi que pour le développement de vaccins appropriés ; et que les autorités réglementaires considèrent l'échange comme une mesure d'urgence et agissent afin de réduire les délais en conséquence ;

Relatives à la région de Thrace en Turquie :

4. A condition que la situation de la FA ne se détériore pas dans les mois à venir, on devrait répéter la vaccination avec A22/O/Asia1 dès août, afin de compenser la réduction attendue de l'immunité conférée par la primo vaccination avec le composant A22 ;
5. Que l'on continue le programme actuel de vaccination de rappel des jeunes animaux ou des populations à haut risque en Thrace ;
6. Que le groupe de conseillers en épidémiologie du Comité permanent de l'EUFMD (Groupe de recherche) continue à soutenir le gouvernement de Turquie pour analyser les résultats sérologiques du programme d'échantillonnage conduit en mai 2006, et pour dessiner la continuation du programme de suivi, et enfin que l'éventuelle révision proposée du programme de vaccination soit communiquée par la Turquie aux pays voisins et à la CE ;
7. Que le plan du programme de suivi pour l'automne 2006/printemps 2007 devrait prendre en considération les exigences du programme d'éradication de la FA devant débuter en 2007 ;

Relatives au risque de FA dans la région européenne et méditerranéenne :

8. Que l'on améliore le flot d'informations vers les pays membres de l'EUFMD sur les changements de la situation du risque, consistant en un rapport régulier de la situation de la surveillance en temps normal et sur un mode d'alerte avec des suivis quand des évènements majeurs surviennent et concernent les pays membres ;
9. Lorsque des évènements menaçants sont identifiés, que des réunions d'urgence soient rapidement organisées par le Secrétariat, auxquelles le Comité Exécutif, l'OIE et la CE sont invités, ainsi que d'autres sur décision du Président, afin d'évaluer le risque et la réponse internationale ;
10. Que l'on ajoute l'information sur le type de virus dans le Système européen de notification des maladies animales (ADNS), au moins à titre d'information provisoire sur le typage, et que cette information soit aussi communiquée à la FAO et à l'OIE ;
11. Que le Groupe de recherche établisse une recommandation sur l'appellation des sous-types du virus aphteux, et sur les méthodes appropriées pour fournir l'information sur les sous-types au moment du premier rapport à l'OIE et à la CE (ADNS) ;

Relatives aux recommandations pour les banques de vaccins nationales et internationales en Europe :

12. Que les pays membres de l'EUFMD prennent note des recommandations mises à jour par le L.M.R ; ils devraient être avertis des changements de priorité, en particulier de l'importance accrue d'A Erythrée 98 (portée à priorité moyenne) et d'A 22 (portée à haute priorité) ;
13. Que la priorité devrait être donnée à l'étude de la diversité antigénique parmi les souches de virus aphteux circulant en Afrique ;
14. Que la FAO et l'OIE devraient réunir le Comité de direction du réseau OIE/FAO des laboratoires de référence de la FA avant novembre 2006, afin d'examiner les problèmes, y compris l'expansion du réseau pour inclure des laboratoires nationaux de référence (NRLs);

Relatives à la surveillance en amont dans les régions présentant un risque pour leurs voisins européens :

15. La faisabilité d'élargir le type de collecte à faible coût d'échantillons de virus aphteux provenant de sites épidémiologiques instructifs (sites sentinelles) soit étudiée, en travaillant avec les organisations régionales spécialisées et les réseaux d'épidémiosurveillance existants, partout où cela sera possible ;
16. Que le Président du Comité Exécutif et le Secrétaire engagent des discussions avec la FAO et l'OIE, et d'autres parties pertinentes, sur l'établissement d'une alliance internationale de surveillance ou un partenariat

sous le Cadre global pour le contrôle des maladies transfrontalières (GF-TADS) afin de coordonner et de promouvoir la surveillance de la FA, de définir des priorités dans les efforts de collection de prélèvements, de soutenir le réseau des laboratoires de référence OIE/FAO et, de ce fait, améliorer la compréhension globale du risque lié au virus aphteux et de l'alerte précoce aux menaces de maladie ;
17. Que le Président écrive au gouvernement britannique au sujet des retards dans l'acheminement des échantillons entre les laboratoires nationaux de référence des pays membres ;
18. Que la Constitution devrait être revue et un papier produit pour la 74ème réunion du Comité Exécutif afin de discuter les questions et les options liées à l'extension du mandat de la Commission EUFMD à la région plus large où la surveillance de la FA est d'importance ;

Relative à la contribution financière de la CE au programme de la Commission EUFMD :
19. Que la nouvelle contribution financière de la CE aux activités de la Commission soit gérée de telle manière que suffisamment de ressources soient gardées en réserve pour permettre une réponse à des situations d'urgence crées par la maladie et requérant d'importantes et soudaines dépenses ;

Relatives au contrôle de la FA dans le Caucase :
20. Que sous le programme approuvé par l'EUFMD et la CE, le projet soit promptement exécuté, en prenant avantage des bonnes relations de travail avec chaque pays, afin de mener à bien les actions requises pour le programme de 2006, et pour adapter celui-ci de façon à améliorer la capacité de détecter et de gérer la menace du virus A22 ;
21. Que la CE et le Secrétariat de l'EUFMD administrent la fourniture de vaccin monovalent A22 en urgence pour un déploiement rapide de cette réserve, si besoin est ;
22. Que les priorités dans l'utilisation du vaccin trivalent A22/O/Asia1 fourni par la CE devraient être : 1. de revacciner la partie européenne de la région de Thrace, 2. de vacciner les zones situées sur le côté anatolien de la Mer de Marmara et 3. de vacciner dans d'autres zones, incluant les districts de la Province d'Ardahan qui borde la Georgie ;
23. Que les efforts de surveillance soutenus par le programme EUFMD/CE devraient continuer en routine afin d'assurer que les virus et sérums des zones contrôlées sont expédiés à des laboratoires européens, jusqu'au jour où les structures nationales seront à même de garantir l'exécution des tests ;

Relatives au Comité permanent du Groupe de recherche
24. Que des questions additionnelles soient ajoutées à l'Ordre du jour du Groupe de recherche, incluant :
* recommandations pour l'inclusion de l'information sur les sous-types du virus dans les rapports d'identification des maladies animales (p.ex. ADNS ou WAHIS) ; ainsi que des recommandations sur les méthodes rapides de typage à mettre en œuvre pour fournir l'information (provisoire) sur les sous-types ;
* limites techniques et contraintes à la réduction de la période de temps de « perte du statut indemne de FA » suite à des foyers ;
* variation du type antigénique A : il est demandé au Groupe de recherche de revoir : a. l'étendue de la protection conférée par les vaccins de type A quand hautement « chargés », et l'impact de ceci sur l'interprétation des valeurs de r, et sur la sélection des vaccins à utiliser en cas d'urgence ;
b. l'évidence des facteurs de risque pour la dérive antigénique, y inclus l'impact de la vaccination sur la dérive antigénique ;
c. la protection croisée entre le vaccin contenant le type A87 (Mérial), tel qu'utilisé en Iran, et A Iran 05 ;
* méthode recommandée pour la détection de la circulation du virus dans la période suivant immédiatement des foyers, applicable à une population vaccinée où les animaux positifs au test NSP ne sont pas éliminés et où les anticorps maternels pourraient interférer avec la surveillance chez les animaux nés.

RAPPORT

INTRODUCTION

Le Comité Exécutif de la Commission européenne pour la lutte contre la FA (EUFMD) a tenu sa soixante treizième session à Istanbul, République de Turquie les 15 et 16 juin 2006.

Membres du Comité Exécutif présents :
Dr Peter de Leeuw, Pays-Bas, 1er Vice-président du Comité Exécutif (Président par intérim) ;
Dr Nihat Pakdil, Turquie ;
Dr Basilios Batziliotis, Chef des vétérinaires officiels, Grèce ;
Dr Eugen Olaru, remplaçant le Dr Predoi ;
Dr Torben Grubbe, remplaçant le Dr Preben Willeberg, Danemark.

Observateurs :
Président du Groupe de recherche
Dr Kris de Clercq, CODA-CERVA-VAR, Ukkel, Belgique

Membres du Groupe de recherche du Comité technique permanent
Prof. S. Alexandersen, Institut vétérinaire danois, Laboratoire Lindhom
Dr Mark Bronvoort, Université d'Edinbourg

CE :
Dr Alf-Eckbert Füssel, Chef de secteur, DG-SANCO, Bruxelles
Mle Nermin Kahraman, Délégation de la CE, Ankara

OIE :
Dr Gideon Bruckner, Chef du département scientifique de l'OIE

FAO :
Dr Joseph Domenech, Chef du service de la santé animale
Dr N. Honhold, Consultant épidémiologiste FAO, Ankara, Turquie
Mle Melek Cakmak, Assistante du Représentant de la FAO pour la Turquie

Turquie :
Dr Mustafa Tufan, Directorat général de la protection et du contrôle (GDPC), Ankara
Dr Sinan Aktas, Directeur adjoint de l'Institut SAP, Ankara
Dr Abdulnaci Bulut, Export, Institut SAP, Ankara

Grèce :
Dr Spiros Doudounakis, Directeur de l'unité des maladies animales, Athènes

Roumanie :
Dr Claudiu Diaconu, Institut de diagnostic et de santé animale, Bucarest.

Le Dr Nihat Pakdil, membre du Comité Exécutif et Adjoint au Sous-secrétaire au Ministère de l'agriculture et des affaires rurales (MARA) a accueilli les participants à la session au nom du Ministre. Il indiqua que le gouvernement de Turquie était honoré d'abriter la 73ème session, et que le travail de la Commission EUFMD et de la FAO, de concert avec l'OIE et la CE, avait été important pour l'amélioration du contrôle des maladies dans la région ; il espéra que les initiatives récentes pour perfectionner le partage de l'information et l'échange des virus à l'intérieur de la région, telles que l'atelier régional sur la circulation des virus tenu à Téhéran, aideraient la Turquie et d'autres pays de la région à recevoir une alerte précoce aux menaces de maladies et par conséquent à développer les vaccins requis pour une réponse rapide. Il souhaita aussi que la coopération avec les pays de la région continuerait à se développer et que les décisions de la session prouveraient leur importance en améliorant l'état de préparation au contrôle de la FA dans la région.

Le Dr Peter de Leeuw, Président de la Commission EUFMD par intérim (ci-après dénommé « Le Président »), remercia le Dr Pakdil pour son accueil et informa les membres présents de sa décision d'inviter l'Allemagne et la Grèce à fournir un membre du Comité Exécutif, du fait que les Chefs des services vétérinaires (CVOs) avaient

démissionné suite à leur changement d'affectation. Cette invitation fut soutenue à l'unanimité par les membres présents.

Il proposa qu'une mise à jour soit présentée, avant l'ordre du jour principal, sur le foyer le plus récent survenu en Thrace, lequel avait été confirmé le 14 juin. Le Dr Naci Bulut, de l'Institut SAP, expliqua que le 9 juin, dans le district d'Evrese de la province de Cannakale, dans la partie européenne de cette province, un vétérinaire privé avait déclaré la FA aux services du gouvernement ; des prélèvements furent collectés et soumis à l'Institut SAP, lequel a indiqué par la suite qu'il s'agissait d'une infection par le type A. Le 14 juin, l'enquête de terrain a trouvé une seconde ferme infectée 50 mètres plus loin. Il apparaît que l'infection a été introduite le 6 juin par des animaux transportés depuis le côté anatolien de la province de Cannakale. On a estimé que la plus ancienne lésion datait de trois jours, confirmant la suspicion que la transmission survint le 6 juin. Dix-huit animaux furent abattus le 13 juin pour le contrôle de la maladie. L'équipe avait observé des lésions buccales très bénignes chez l'animal malade restant ; cet animal a été envoyé à l'abattoir par la suite. La couverture vaccinale, dans cette province, a été rapportée comme étant élevée – 92% au total ; dans le district affecté d'Evrese, elle atteint 75% des bovins et 80% des ovins. La source de l'infection apparaît être des animaux transportés à travers la Mer de Marmara en provenance de la zone sud-est de la province de Cannakale, sur la rive anatolienne. Cette zone n'était pas connue antérieurement pour avoir des foyers actifs et des enquêtes de suivi étaient nécessaires. Des animaux non vaccinés d'Evrese étaient impliqués, mais les animaux anatoliens, à l'origine de l'infection avaient apparemment été vaccinés. En résumé, les circonstances indiquaient une infection localisée dans des fermes isolées à faible couverture vaccinale ; il existerait qu'un risque relativement faible d'extension à des zones voisines puisse intervenir, étant donnés la haute couverture vaccinale et la localisation de la ferme. Néanmoins, cela indiquait que la menace d'extension de l'infection à partie de la rive anatolienne est bien réelle.

1. POINT 1 : ADOPTION DE L'ORDRE DU JOUR

L'ordre du jour fut adopté tel que proposé **(Annexe 1).**

2. POINT 2 : ACTIVITES DE LA COMMISSION EUFMD DEPUIS LA 72ème SESSION DU COMITE EXÉCUTIF DE L'EUFMD

Les missions accomplies depuis la 72ème session par le Secrétariat, les membres du Groupe de recherche, les experts et les consultants furent résumées par Keith Sumption **(Annexe 2).**

3. POINT 3 : EVENEMENTS RECENTS ET SITUATION ACTUELLE DE LA FIÈVRE APHTEUSE DANS LA RÉGION

Rapport de la Turquie

Situation nationale y inclus le rapport sur l'origine, la diffusion et le contrôle d'urgence de l'épidémie de FA de type A (A Iran 05)

La situation nationale du contrôle de la FA fut présentée par le Dr Sinan Aktas, de l'Institut SAP **(Annexe 3).** Depuis la session précédente du Comité Exécutif, la Turquie a été très durement affectée par une épidémie de FA de type A ; les premiers foyers identifiés comme étant causé par le virus de type A furent observés à Elazig en novembre 2005, au centre sud-est de la Turquie ; des suspicions du nouveau type furent soulevées du fait de l'absence de foyers de type A dans la période mai à novembre 2006. Le virus a été typé par la suite à l'Institut SAP et l'analyse de la séquence au LMR, Pirbright ; le virus était génétiquement proche de virus iraniens de 2003-5, désigné en Turquie comme ressemblant à A22, sur la base de tests d'appariement croisé avec le vaccin original A22 Mahmatli. La situation sérieuse de l'épidémie à virus A Iran 05 fut présentée ; le cas index a été considéré par tracement comme ayant éclaté près des frontières Iran/Azerbaïdjan, dans la province d'Igdir. Quasiment toutes les zones du pays (presque 70% des provinces) ont été affectées dans la période de novembre à mars. Avant le nouveau type A, on considérait la situation, principalement la circulation du type O, comme étant sous contrôle ; on observa une maladie très sévère et sa diffusion extrêmement rapide après l'introduction du nouveau type A.
En réponse à la détection d'un type exotique, le vaccin A22 a été identifié comme convenable et on a commencé la production de l'original A22 Mahmatli, avec 8 lots (8,2 millions de doses) produits jusqu'ici pour être distribués pendant la campagne de printemps. On développe aussi un vaccin homologue. A ce jour, on a réalisé la couverture de 72% en Anatolie, et > 90% en Thrace. En 2006, on a dénombré 248 foyers dans 54 provinces avant la vaccination et 49 foyers dans 26 provinces ensuite. En mai, 70 foyers ont été dénombrés dans 28

provinces, mais il faut noter l'augmentation des rapports provenant du centre et du sud-est de la Turquie qui n'avaient pas déclaré de foyers précédemment. D'intenses mouvements d'animaux ont disséminé la maladie, et la réponse a été contrariée par le fait d'avoir concurremment des épidémies d'Influenza aviaire et de FA, lors d'une période où le climat hivernal était très dur. L'immunité dans certaines régions a pu commencer à décroître eu égard à la primo vaccination.
Il demanda au Comité de noter les besoins de la Turquie pour l'amélioration des capacités d'alerte précoce et de réponse, en particulier :
- vigilance améliorée aux évènements internationaux sur les maladies
-échanges d'information sur les maladies améliorés et transparents
- état de préparation à la vaccination d'urgence
- établissement d'une banque régionale de vaccins et d'antigènes
- échange des souches de vaccins courantes circulant dans la région, afin de permettre aux laboratoires de diagnostic et aux producteurs de vaccins de prendre les mesures nécessaires.

Gestion d'urgence de la FA (A Iran 05) en Thrace, 2006

Le Dr Aktas résuma les évènements de la maladie en Thrace dans la période entre janvier 2006 et à présent **(Annexe 3).** Le Directorat général de la protection et du contrôle (GDPC) a apprécié les trois missions du Secrétaire de l'EUFMD et la fourniture d'urgence de 2,5 millions de doses de vaccin trivalent A22/O Manisa/Asia1 (Aftovax, MERIAL) suite à sa première visite.
La situation a été la plus sévère des dernières années, la transmission intervenant au cours des fêtes de kurban/bayram et pendant l'hiver, chacun des facteurs contribuant à la propagation. Mis à part le foyer le plus récent de Cannakale, il y eut 16 foyers de type A dans la partie européenne de la Thrace turque (par province : Edirne 1, Terkidag 6, Kilareli 8, Istanbul 1) ; 153 bovins furent abattus. Le GDPC a commencé la vaccination le 11 février en utilisant le vaccin A22 du SAP. Il n'y eut pas suffisamment de vaccin disponible au début à cause de la demande nationale, mais suite à la fourniture très importante et rapide de la CE, suffisamment de vaccin fut disponible pour commencer un programme de vaccination d'urgence complet sur les populations de bovins et de petits ruminants.
Rapport sur l'utilisation du vaccin fourni par la CE : environ 1,4 million de doses du vaccin de l'UE (Aftovax, Mérial) ont été utilisées.

Suite à cette présentation, Keith Sumption résuma les missions EUFMD en février (résumées dans le rapport de la réunion tenue le 28/02/2006 à l'OIE, **Annexe 4**) et en mars pour réaliser une estimation immédiate de la situation et des besoins pour y répondre, ainsi que les 2ème et 3ème missions (**Annexe 5**) pour conseiller sur la stratégie et la mise en œuvre de la vaccination d'urgence en Thrace. Comme résultat de ces missions, l'objectif approuvé par le GDPC a été la vaccination totale pour la fin mars ; un plan hebdomadaire de suivi de la vaccination a été initié afin de tenir informées les parties intéressées sur les progrès. Les rapports hebdomadaires rassemblés figurent en **Annexe 6.** Dans presque toutes les parties de la Thrace, on a atteint fin mars plus de 80% de couverture chez les bovins et les petits ruminants ; il n'y eut pas de déclarations de foyers depuis le 1er mars (jusqu'à la semaine du 13 juin).
Il remercia le GDPC pour l'accès complet et ouvert donné aux experts de l'EUFMD pendant leurs missions. En particulier, il remercia le Dr Sungur et le Dr Arik pour avoir pris l'engagement d'achever la vaccination en mars malgré la pression de la situation de l'Influenza aviaire et la situation difficile au niveau du terrain. Il félicita les Directeurs des services vétérinaires provinciaux pour leur engagement.
Cependant, il nota que l'absence d'un coordinateur à l'échelle de la Thrace avait entravé les efforts : les missions de l'EUFMD et le personnel du siège du GDPC ne pouvaient jouer ce rôle que temporairement, tandis que la région le réclamait pendant toute la durée de la réponse d'urgence. Il réitéra que cette faiblesse a été déjà identifiée plusieurs fois, et a été au cœur du projet proposé de renforcement des actions de surveillance et de prévention (projet soutenu par la 72ème session du Comité Exécutif et réclamé à la DG-SANCO le 15 février).

Questions soulevées lors de la discussion :

1. Utilisation du reliquat de vaccin fourni par l'UE : il est actuellement emmagasiné à l'Institut Pendik ; il en reste assez pour la campagne d'automne chez les bovins (> de 493 000 doses bovines) ; il pourrait être alternativement utilisé pour une complète vaccination de rappel des bovins.
2. Etude sérologique de l'immunité post vaccination : la collecte des prélèvements a été achevée en mai ; les résultats des tests devraient être disponibles à la fin de juin.
3. Variation du type A : on a demandé au Groupe de recherche de considérer les questions de l'épidémiologie du type A et la protection conférée par les antigènes vaccinaux actuels. L'étendue de la protection conférée par les

vaccins de type A – quand administrés à haute charge – est dès à présent en cours d'étude par les membres du Groupe de recherche.
4. On a demandé plus de clarté sur l'impact des programmes de vaccination sur la dérive antigénique.
5. Protection partielle par la vaccination par A Iran 96 : l'Institut SAP considère que cela advint après des vaccinations répétées par A Iran 96, mais il était évident sur le terrain que cela n'eut aucun impact sur la propagation de la maladie.
6. L'utilisation potentielle, dans les campagnes d'urgence, de plus d'un antigène de type A pour étendre la couverture ; des antigènes moins appariés pourraient être utilisés avec une charge plus lourde, ou dans des épreuves potentielles moins élevées.

Suivi sérologique de la campagne d'urgence :

Les recommandations sur le suivi de l'immunité à la primo vaccination étaient incluses dans le 2ème rapport de mission EUFMD (1er mars 2006).
Le Dr Aktas indiqua que 960 échantillons furent collectés sur des animaux vaccinés 1 à 2 mois précédemment par l'Aftovax (Mérial) et par le vaccin A22 de l'Institut SAP (provenant de 3 villages, dans chacune des 5 provinces). De plus, quelques 12 992 prélèvements ont été collectés suite aux recommandations de décembre 2005 pour les tests NSP ; les dates d'échantillonnage ont pris place principalement pendant la période de l'épidémie, du fait que ceci avait été planifié avant l'apparition des foyers.

Plan pour la sérosurveillance post foyers en Thrace :

Mark Bronsvoort parla de la discussion tenue lors de la réunion du 14 juin avec le GDPC et les épidémiologistes de l'Institut SAP **(Annexe 7).** La réunion avait eu lieu avant que ne soient connues les circonstances du dernier foyer en Thrace; de ce fait, le groupe avait discuté des priorités pour l'investigation – identifier le risque provenant d'animaux guéris, circulation du virus, ou niveau de l'immunité, ce dernier étant le principal outil de gestion du risque.

La première tournée d'échantillonnage, telle que dessinée par l'étude en décembre 2005, avait été entreprise pendant la période du foyer et la vaccination d'urgence ; en conséquence, seul un jeu pourrait être utilement testé pour les réponses d'anticorps SP ou NSP. Le second échantillonnage de 900 prélèvements collectés en mai devrait être informatif pour les niveaux d'immunité post vaccination après deux mois environ suivant la vaccination, mais il est peu probable que le modèle aide à résoudre les questions de la quantité d'animaux guéris suite à une exposition au virus de la FA.

Points de discussion :
1. Exigences de la gestion du risque : l'importance de maintenir l'immunité du troupeau et la forte probabilité qu'un trou dans l'immunité apparaisse à la fin de l'été (4 à 5 mois après la primo vaccination).
2. Le minutage de la vaccination de rappel et l'alternative d'un tour de vaccination d'automne rapproché.
3. L'inclusion des moutons dans les plans de sérosurveillance : le plan de décembre 2005 a décidé de se concentrer sur les bovins.
4. La nécessité de réunir le groupe de conseil en épidémiologie pour analyser l'information sur l'étude de l'immunité.
5. La possibilité de définir des localisations à plus haut risque, comme là où la couverture vaccinale est suboptimale. Les 900 sérums n'aideraient pas à définir l'absence de couverture comme étant à un niveau spatial convenablement resserré pour détecter les problèmes.
6. Echantillonnage au moment de la vaccination, qui est efficace et permet la détection du niveau minimal de l'immunité du troupeau.
7. La difficulté d'appliquer les méthodes classiques de détection des virus circulants, puisque l'exposition après le dernier foyer exigerait que l'on teste les animaux nés depuis le dernier foyer et suffisamment âgés afin d'éviter l'interférence des anticorps maternels dans les tests (c.-à-d. prélever 6 mois après le dernier foyer).

Recommandations :
Elles sont fournies dans le préambule du rapport.

Situation régionale – Iran

Rapport de surveillance et Rapport de la réunion sur la circulation du virus de la FA dans la région, Téhéran, 11 et 12 juin 2006

Keith Sumption résuma la situation de la FA et présenta un rapport sur la réunion **(Annexe 8)** tenue juste avant la 73ème session pour revoir la circulation du virus aphteux en Iran et dans les pays voisins, réunion accueillie par la R.I. d'Iran et organisée par l'EUFMD à travers le *Projet de surveillance de la FA en Asie centrale, phase I,* financé par la CE (DG-SANCO, MTF/INT/003/EEC).

Les participants étaient les experts de laboratoire et les spécialistes de la lutte contre la FA des services vétérinaires d'Iran, Turquie, Irak et Syrie. La région a été très durement touchée par l'invasion rapide et l'impact du virus de type A (A Iran 05) en 2005-6, lequel continue de circuler en Turquie et en R.I. d'Iran et a été détecté au Pakistan et en Arabie saoudite en 2006. La Syrie et l'Irak n'ont pas déclaré la détection du virus A Iran 05 jusqu'ici mais demeurent à haut risque. Le type O reste endémique, mais le risque d'Asia-1 semble réduit, sa dernière apparition datant d'août 2005 en Iran. Cette situation dynamique nécessite un suivi régulier, non seulement à cause de la première détection de nouvelles souches au centre des pays plutôt qu'aux frontières, et à cause des rapides mouvements des animaux de commerce, mais aussi du fait que d'autres variants antigéniques du type A ont été observés en 2005 et peuvent continuer à persister dans la région et provoquer ensuite des ré émergences. De plus, le type A Egypte 06 a le potentiel de se propager à d'autres pays du Moyen-Orient.
La réunion a considéré comment on pourrait prévenir de futures épidémies régionales, et formula des recommandations relatives à l'échange d'information, à l'échange de souches de virus afin de permettre aux producteurs de vaccins de répondre, et à l'optimisation et au suivi amélioré des programmes de vaccination.

La réunion peut être considérée comme un développement important du fait que les discussions sur l'amélioration du compte-rendu et des systèmes de surveillance ont été conduites d'une manière constructive, vivante et positive, grâce à des présentations par l'Organisation vétérinaire iranienne **(Annexe 9)**, et sur le typage et le développement des vaccins par l'Institut Razi d'Iran **(Annexe 10).** Cependant, l'information régulière (une fois par mois ou plus tôt) depuis les zones de l'étude pilote, incluant les régions proches de la Turquie, prévue par le programme soutenu par la CE/EUFMD n'a pas encore pris place.

Conclusions de la réunion de Téhéran sur la situation récente du contrôle de la FA et sur la circulation du virus dans la région de la Turquie, R.I. d'Iran, Syrie et Irak :

- Le manque d'échange d'information entre les pays et envers les organisations internationales a contribué à l'ampleur de l'épidémie de type A connue par la région en 2005-6.
- L'absence de vaccination immédiate contre le type A Iran 05 a contribué à l'étendue des foyers.
- L'antigène A22 disponible dans les banques de vaccins internationales, ou détenu individuellement par des pays, n'avait pu être mobilisé à temps à cause du retard dans la déclaration de l'identification du problème du virus A Iran 05 (similaire à A22).
- Le génotype du virus aphteux A Iran 05 a prouvé être hautement invasif et a causé une maladie sévère chez les bovins de tous âges, bien que cela soit apparu moins grave là où préexistaient de hauts niveaux d'immunité contre le type A.
- L'infection continue de circuler mi-2006 en Turquie et en Iran, et un élargissement supplémentaire de l'infection à d'autres pays ou zones peut probablement survenir.
- Il est probable que la circulation d'autres types A dans la région continue en 2006, étant donnée la détection des types génétiques d' A Iran 96, A Iran 87 et A Iran 99 circulant dans des localisations apparemment restreintes de Turquie et/ou d'Iran en 2005.
- Les circonstances épidémiologiques qui permettent la persistance de virus de type A variés ne sont pas claires, et, par conséquent, une attention spécifique devrait être constamment appliquée aux foyers de type A et à l'épidémiologie.
- La localisation et le risque provenant d'autres virus exotiques, incluant le type A Egypte 06, devraient être suivis de très près par chaque pays.
- La situation d'Asia-1 apparaît favorable en Iran et dans la région à présent, mais la situation dans une région élargie comprenant le Pakistan, le centre et le sud de l'Asie, devrait être suivie de très près et des plans d'urgence développés avant de prendre la décision d'ôter Asia-1 des programmes de vaccination.
- Il est nécessaire d'organiser des réunions régionales régulières pour aider à l'évaluation du risque et à la sélection de la vaccination et d'autres mesures préventives basées sur des normes similaires ou harmonisées pour le typage des virus, la sélection et le suivi des programmes de vaccination.

Situation régionale – épidémie de type A (type A de l'est africain) en Egypte en 2006

Résumé des missions d'évaluation et de suivi par l'EUFMD en Egypte

Keith Sumption présenta **(Annexe 11)** l'incursion d'un virus de type A en Egypte en 2006 ; le virus représentait un topotype qui n'avait pas été signalé auparavant en dehors de l'Afrique de l'est et s'est propagé dans une population totalement susceptible : le premier rapport de l'Egypte à l'OIE sur le nouvel évènement indiqua que l'infection était déjà largement répandue. Trois missions ont été organisées par la Commission EUFMD en Egypte suite à une requête de l'Organisation générale des services vétérinaires (GOVS) pour assistance en matière de méthodes de diagnostic de laboratoire, d'épidémiologie et de contrôle, et d'amélioration de la production de vaccins. Une réunion convoquée par le Président de l'EUFMD a été tenue à Paris le 24 mai pour discuter avec la CE (SANCO) ; de l'information épidémiologique supplémentaire a été fournie à l'EUFMD par le GOVS pour cette réunion **(incluse en Annexe 11)**.

Il indiqua qu'une discussion régulière sur le risque avait pris place depuis le premier rapport à l'OIE entre la FAO, le LMR et la CE (SANCO), avec pour résultat la mission de diagnostic pour identifier si plus d'un type de virus était présent, et la mission d'épidémiologie pour identifier l'étendue du problème et fournir immédiatement une assistance au GOVS en matière de stratégie **(Annexe 12)** pour combattre l'épidémie. L'utilisation stratégique de la vaccination a été gênée par la distribution très étendue des cas, l'absence d'information spatiotemporelle précise sur l'apparition de la maladie, le manque de mesures et de possibilités en biosécurité, et l'absence de vaccins de type A immédiatement disponibles. Un vaccin homologue fut préparé en Egypte, testé en mars et utilisé sur le terrain à partir d'avril. Les cas rapportés mensuellement ont montré un déclin rapide après février, avant que le vaccin ne soit distribué, suggérant que d'autres facteurs étaient responsables de la baisse, comme la réduction du mouvement des animaux ou « l'extinction » des foyers dans les zones les plus affectées. Malgré tout, Keith Sumption considéra que l'infection continuerait probablement de se propager, d'où le risque continu pour la région. En réponse à la requête d'assistance de l'Egypte pour augmenter la production locale du vaccin homologue destiné à combattre l'épidémie, et avec le soutien du Président, un expert en matière de production de vaccin (Simon Barteling) a entrepris une mission en juin ; son rapport figure en **Annexe 13.**

La maladie nodulaire des bovins a également été observée au cours de ses missions, et déclarée depuis à l'OIE : cela aussi n'avait pas été rapporté depuis de nombreuses années en Afrique du nord et constitue un risque régional.

Leçons retenues des épidémies récentes

Le Comité Exécutif a discuté les domaines où des améliorations étaient nécessaires, en alerte précoce, et dans un processus consultatif amélioré pour identifier le risque et les options de gestion.

Il a été noté que la CE demandera maintenant que l'information sur les sous-types de virus aphteux soit fournie au Système de notification des maladies animales (ADNS) utilisé par les pays de l'UE et les pays en accession. Cependant, cette proposition peut devancer les procédures régulières de diagnostic, qui, usuellement, identifient le type seulement au moment de la confirmation (par ELISA). A l'heure actuelle, le « sous typage » - que ce soit par analyse génétique ou antigénique/appariement – demande des procédures additionnelles et peut prendre plusieurs jours. La nécessité d'un typage rapide est clairement évidente. Etant donnée la variété de noms pour les derniers types A, il existe un besoin d'utiliser une terminologie standardisée et si possible, des procédures de typage qui peuvent inclure le séquençage, la fixation du complément, le profilage avec des anticorps monoclonaux, la neutralisation comparative ou la capture par ELISA.

Il a été recommandé d'en référer au Groupe de recherche afin de faire une recommandation sur la désignation des sous-types, et sur la méthodologie de typage rapide pour fournir un sous-type provisoire au moment du premier rapport d'un foyer.

Recommandation du LMR sur les stocks de vaccins dans les banques européennes et nationales

Cette section a été présentée par le Dr Kris de Clercq, au nom du Dr Paton, Laboratoire mondial de référence de la FAO, Pirbright. La présentation figure en **Annexe 14.**

Les évènements récents ont stimulé la reconsidération des priorités des pays européens : la proposition du LMR était que le stock d'antigène A22 devrait être déplacé de MOYENNE à HAUTE priorité et que le stock d'antigène de type A Erythrée passe de BASSE à MOYENNE priorité. Les évènements ont également fortement renforcé les recommandations des précédentes sessions de l'EUFMD selon lesquelles une diversité significative des virus existe dans des endroits névralgiques de l'ouest de l'Asie et en Afrique et que des efforts plus intensifs devraient être faits pour collecter et caractériser les virus dans ces zones. Dans le cas de l'incursion du type A en Egypte, la circulation du virus a perduré pendant plus de huit années sans qu'un prélèvement ait été soumis au LMR ou à un autre membre du réseau de laboratoire OIE/FAO.

Le LMR a également présenté les progrès du réseau OIE/FAO de laboratoires de référence de la FA : le premier rapport annuel a été préparé en 2005, mais certains des 4 partenaires n'ont pas signé le Mémoire d'accord qui

permettrait d'améliorer le partage de matériels de référence. Le LMR a proposé les laboratoires de recherche nationaux de Pakchong (Thaïlande) et de Lanzhou (R.P. de Chine) comme partenaires additionnels.

Discussion
Une préoccupation s'est exprimée selon laquelle les critères utilisés pour placer les antigènes dans les catégories haute, moyenne et basse n'étaient pas clairs. Le problème de l'antigène A Erythrée 98 est un cas d'espèce ; l'opinion est divisée sur le fait qu'on devrait le considérer comme une haute priorité jusqu'aux résultats des essais d'immunité croisée ou que le risque démontre le contraire. De même, le placement d'A Iran 96 en haute priorité a été mis en doute étant donnée la faible prévalence de ce type l'an dernier comparé à A Iran 05; cependant, on tomba d'accord sur le fait qu'il était prématuré de tirer des conclusions sur le risque provenant de virus apparentés à A Iran 96.
On discuta également des stocks d'Asia-1 et leur convenance pour les types d'Asia-1_circulant en Chine et dans la Fédération de Russie : l'opinion du Laboratoire ARRIAH, présentée lors de la réunion de l'OIE le 28 février selon laquelle les vaccins d'ARRIAH ne fournissaient pas une protection croisée adéquate, ce qui est contraire à l'avis habituel concernant la protection croisée des vaccins Asia-1. Le Dr Bruckner accepta de rechercher des détails auprès d'ARRIAH pour confirmer ou réfuter ce point.

Le Dr Alexandersen, de l'Institut vétérinaire danois (DVI) mit en question l'addition de certains Laboratoires nationaux de recherche au réseau OIE/FAO de laboratoires de la FA : le réseau est-il basé sur une invitation unique ? Et qui en décide ? La position de la FAO sur ce point était que ce devrait être au Comité de direction du réseau, comprenant la FAO, l'OIE et le coordinateur du LMR, de se mettre d'accord sur la politique d'ouvrir le réseau à des laboratoires additionnels. Cette position a été soutenue par l'OIE et il fut accepté que le Comité de direction devrait se réunir suffisamment avant la réunion annuelle du réseau (programmé au Botswana en novembre 2006).

Recommandations
Elles figurent dans le préambule du rapport.

4. POINT 4 : SURVEILLANCE EN AMONT – ACTIONS POUR AMELIORER LES ACTIVITES DE SURVEILLANCE DE LA FA DANS LES PAYS POTENTIELLEMENT DANGEREUX

a. Sites sentinelles en Asie occidentale – collaboration avec le Pakistan sur la surveillance du virus

Le Dr Alexandersen illustra le travail en cours entre le Pakistan, la FAO, le LMR et l'Institut vétérinaire danois **(Annexe 15)**, dont l'objectif est d'améliorer la compréhension de l'épidémiologie de la FA au Pakistan : un programme de surveillance a été établi et les premiers prélèvements collectés et expédiés au LMR et de là au DVI pour typage moléculaire. La colonie bovine de Landhi a été choisie comme un site sentinelle pour la collecte des virus et le typage, avec une population d'environ 200 000 animaux et un important roulement dont il résulte des réintroductions régulières de la maladie, et par conséquent une grande convenance en tant que site sentinelle de surveillance.
Les difficultés du programme ont été principalement dans le délai de transport des prélèvements depuis Pirbright vers le DVI. La valeur de l'approche est vérifiée par la détection du virus semblable à A Iran 05 parmi les 15 premiers échantillons positifs, le reste étant constitué du type O (topotype Pan Asia).
Le Comité se félicita de l'initiative.

b. Surveillance de la FA dans l'ouest sahélien : mission au Niger, 2005

Le Dr Sumption fournit le rapport **(Annexe 16)** de la mission au Niger en novembre 2005, soutenue par le Fonds fiduciaire de la CE, et provoquée par le taux très bas de soumission de virus de la région aux laboratoires de référence. La mission a collecté des prélèvements de FA à partir de foyers en diverses localisations et a recommandé un suivi sous forme de projet de soutien, afin de maintenir un niveau d'échantillonnage de base depuis ces sites. De plus, ils ont recommandé une mission supplémentaire afin d'identifier des sites additionnels dans des pays d'Afrique de l'ouest et d'inclure ceux-ci dans un programme plus resserré pour le suivi du risque de FA.

Discussion
Le consensus général de la discussion a été que le soutien à coût réduit s'était montré efficace. Le Dr Füssel indiqua que plutôt que d'augmenter les missions d'identification, l'initiative devrait aller de l'avant pour établir la collecte et la soumission régulières depuis des sites sentinelles dans le Sahel.

Le Président souleva la question du mandat de la Commission en relation avec des actions dans des pays hors de la région européenne. Il accepta que ce soit dans l'intérêt des pays membres qu'une telle surveillance intervienne mais considéra que quelques parties de la Constitution pourraient nécessiter d'être amendées étant donnés les nouveaux besoins de l'Europe.

Recommandations
Elles sont fournies dans le préambule du rapport.

5. POINT 5 : RENFORCEMENT DE LA SURVEILLANCE ET PLANIFICATION DE LA VACCINATION PRÉVENTIVE EN TURQUIE

a. Coordination des apports inter agences pour le contrôle de la FA (Comité de direction et Groupe de travail pour le projet d'éradication de la FA du programme gouvernement de la Turquie/CE)

Mle Nermin Kahraman, Délégation de la CE, Ankara, informa le Comité Exécutif sur la position de l'accord entre la CE et la Turquie pour le soutien à l'éradication de la FA : le programme est approuvé par la CE, mais quelques conditions requises pour sa mise en œuvre n'ont pas encore été remplies. Les représentants du GDPC ont indiqué que le Comité de direction et le Groupe de travail du projet ne s'étaient pas encore réunis, mais que, lorsque cela sera arrangé, la FAO, soit son bureau d'Ankara, soit directement le Secrétariat de l'EUFMD, seraient invités à y participer. Ces réunions auront lieu au minimum 4 fois par an.
Le président expliqua les décisions de la 72ème session et la nécessité pour le Comité Exécutif d'être tenu informé sur les progrès du programme d'éradication. Il réitéra la position du Comité Exécutif que l'EUFMD devrait être invitée au Comité de direction, ce qui devrait être important aussi pour la Turquie puisque l'expérience de l'EUFMD dans la région avoisinante est importante pour l'éradication de la FA dans ce pays.

b. Réponse de SANCO à la lettre de requête du 15/02/06 d'utiliser le fonds fiduciaire MTF/INT/003/EEC pour soutenir 24 mois de formation au contrôle de la FA

Le Dr Füssel prit la parole à ce sujet : il indiqua que SANCO avait examiné la réponse à la 72ème session et aux évènements des mois passés et qu'étant données les prévisions financières pour le fonds fiduciaire MTF/INT/003/EEC pour la période jusqu'à 2008, une décision avait été adoptée d'augmenter l'accord entre la FAO et la CE de 4,5 à 8 millions d'euro pour les activités de contrôle de la FA pendant la période. Il souligna qu'il resterait d'une importance majeure de maintenir le fonds comme une réserve qui serait immédiatement disponible en cas de dépenses de crise, telles que la fourniture de vaccins en urgence. La décision financière fut prise le 31 (mai ?) mais n'a pas été encore publiée.
Par conséquent, on ne pourra répondre à un certain nombre des plus importantes dépenses contenues dans la requête du 15 février qu'après la publication de la décision.
Le Président enregistra l'appréciation du Comité pour les actions prises par SANCO, de manière à ce que les fonds nécessaires puissent être assurés pour les activités essentielles. Il espère donc recevoir la réponse de SANCO aussitôt que possible, afin d'éviter des délais supplémentaires dans la mise en œuvre des activités approuvées pour 2006.

6. POINT 6 : CONTRÔLE DE LA FIÈVRE APHTEUSE EN IRAN

Rapport d'avancement – Phase 1 des actions de surveillance et de contrôle de la FA supportées par EUFMD/CE/France

On prit note du rapport des derniers 6 mois **(Annexe 16)** sur l'avancement de la phase 1 du projet soutenu par la CE à travers le fonds fiduciaire. Pendant cette période, sept zones d'études pilotes pour la surveillance améliorée de la FA ont été identifiées et assignées à des responsables; des progrès furent faits grâce à des ateliers de formation pour ceux chargés de l'organisation des enquêtes sur les foyers de FA dans ces zones pilotes. La première réunion internationale majeure de ce projet s'est tenue les 11 et 12 juin sur la circulation du virus aphteux, qui permit l'échange et la revue des données sur la situation du virus en Iran.

Discussion
La DG-SANCO indiqua qu'elle considérait encore trop bas le flot d'information provenant des zones menaçant la Turquie, et qu'un niveau de rapport régulier et détaillé n'avait pas encore été atteint par ce projet.

Keith Sumption approuva cette opinion et indiqua que le flot d'information restait un problème, et que le Coordinateur du Groupe de travail du projet national n'avait pas encore fourni les résumés mensuels requis.

Recommandation
On confirma la décision de la 72ème session selon laquelle les progrès du projet devraient être revus vers la fin de la première année (p.ex. fin 2006).

7. POINT 7 : CONTRÔLE DE LA FIÈVRE APHTEUSE DANS LE TRANS - CAUCASE

a. Achat de vaccin A22 en urgence pour le Caucase

Keith Sumption résuma la situation du contrôle de la FA et des apports fournis par la FAO avec le soutien de la CE. Le Secrétariat a agi dans le sens des recommandations des 70, 71 et 72èmes sessions ; le vaccin trivalent A/O/Asia-1 acheté au FGI-ARRIAH a été fourni à chacun des pays début de février 2006 pour être utilisé dans la campagne de vaccination de printemps dans la zone tampon ; une requête pour l'utilisation du fonds fiduciaire fut présentée à la CE pour les actions de 2006. La livraison avait pris place avant que le nouveau virus semblable à A22 n'ait été déclaré par la Turquie ou l'Iran. Dès que la nouvelle situation a été connue, le Secrétaire de l'EUFMD a fourni l'information par écrit et par téléphone au CVO de chaque pays et à la Fédération de Russie, mettant en garde sur la nouvelle situation. Suite à une discussion avec SANCO, la permission d'utiliser le fonds fiduciaire pour l'achat de 300 000 doses de vaccin monovalent A22 comme réserve d'urgence a été obtenue; le marché fut attribué après appel d'offre au FGI-ARRIAH (pour la fourniture de vaccin A22 550/ Azerbaïdjan 1964). La commande a été passée avec la condition de fournir 50 ml de sérum vaccinal bovin (BVS) au LMR Pirbright afin de vérifier la convenance de l'appariement du vaccin. Au moment où se tient la 73ème session, le BVS n'a pas été livré. Aux termes du contrat, les 300 000 doses seront retenues chez le fabricant jusqu'à ce que l'EUFMD en demande la livraison, à la suite de quoi l'expédition devrait intervenir dans les 5 jours, avec vérification par une société de surveillance indépendante. A condition que la détection précoce, la confirmation et la déclaration à la FAO interviennent, ceci devrait permettre une réponse rapide à une situation où le type A est détecté.
Pour cette raison, le recrutement d'un fonctionnaire technique international a été accéléré, et un professionnel (Carsten Pöetszch) recruté sur un contrat à court terme pour 11 mois à compter du 18 juin 2006 pour coordonner les apports et les activités prévues au programme FA de 2006; ses premières activités sont de participer à l'atelier financé par la FAO (TCP/RER/3001) à Tbilissi du 18 au 22 juin pour les trois pays, puis de visiter chaque pays avant fin juillet pour établir les besoins en vaccins pour la zone tampon et le calendrier des actions.

b. Soutien du gouvernement de la Turquie au contrôle de la FA dans le Caucase

Le Dr Aktas indiqua qu'à la suite de l'avertissement de l'EUFMD aux pays, on demanda à la Turquie de fournir du vaccin A22 et de livrer 200 000 doses à l'Azerbaïdjan ; mais la Turquie n'a pas été capable de disposer de plus de vaccin pour satisfaire la requête de la Georgie.

En ce qui concerne la vaccination dans la province d'Ardahan, du côté turc de la frontière avec la Georgie, 175 000 des 260 000 bovins ont été vaccinés avec A22/O/Asia-1 au printemps, mais quasiment pas de moutons ; ceci pourrait constituer un risque, étant donné que les ovins peuvent être concernés par les mouvements transfrontaliers dans la zone.

Discussion
On discuta du statut de la FA dans les trois pays; le Dr de Clercq ne pouvait croire que chacun des pays avait évité l'infection par A22, ou avait progressé de l'état d'endémie vers l'état indemne, en particulier du fait que les rapports de la Turquie et de l'Iran montraient que l'infection avait été intense de leur côté de la frontière. Il considéra que le recrutement tant attendu d'un épidémiologiste était un excellent développement. Il restait préoccupé de ce que les relations avec les projets financés par les Etats-Unis ne devraient pas conduire à perdre l'indépendance des contrôles en Europe.
Le Dr Füssel apporta son soutien à ce point et jugea indispensable que les prélèvements collectés pour la surveillance soient également expédiés aux laboratoires de référence européens en tant que matériels de référence.

8. POINT 8 : PROPOSITION POUR ÉLARGIR LE RÉSEAU OIE/FAO DE LABORATOIRES DE RÉFÉRENCE DE LA FIÈVRE APHTEUSE EN UN RÉSEAU GLOBAL DE SURVEILLANCE FAO/OIE

Keith Sumption ouvrit le débat sur le sujet. La discussion sur le mandat de la Commission EUFMD conduisit naturellement aux besoins de l'Europe pour une surveillance globale, et au concept d'un forum ou d'une alliance des parties intéressées à conduire des activités qui soutiendront une surveillance améliorée. Il indiqua qu'un tel groupe pourrait, par exemple, se rencontrer annuellement et définir les priorités d'action des agences disposant de ressources internationales pour la surveillance de la FA ; ceci pourrait aider à définir le travail des organisations régionales, y compris l'EUFMD et les centres régionaux de santé animale OIE/FAO. Il considéra que le travail du réseau OIE/FAO de laboratoires de la FA avait bien commencé, mais qu'il avait besoin d'être équilibré par les besoins des gestionnaires du risque – au niveau d'organisation des pays et de la région.

Le Dr Domenech, CVO de la FAO développa le sujet. Le besoin d'un réseau global restait élevé, impliquant à la fois les parties prenantes de l'évaluation et de la gestion du risque et les experts, ainsi que les experts de la FA des laboratoires de référence. A la suite de la résolution de la 35ème session de la Commission EUFMD en 2005, la FAO a offert à l'OIE d'abriter le Secrétariat du réseau mais on n'est pas encore arrivé à un accord. Il indiqua qu'une réunion était nécessaire pour définir la fonction, la composition et l'équilibre entre les experts, ainsi qu'un groupe de travail pour l'épidémiologie et le suivi, et pour les composants de laboratoire. Il considéra en cela que l'EUFMD devrait être vu comme un partenaire indispensable dans un effort global sur la surveillance.

Le Dr Bruckner, OIE, admit que c'était un domaine important de coopération et que l'établissement d'un tel partenariat en matière de surveillance pourrait aider à amener les partenaires sous un seul toit pour coordonner et ordonner les priorités ; il est attendu que les Présidents de l'EUFMD et du Groupe de recherche devraient être impliqués dans les discussions entre les partenaires ; le Dr Bruckner devrait le discuter avec le DG de l'OIE.

9. POINT 9 : RAPPORT DU GROUPE DE TRAVAIL SUR LE DÉVELOPPEMENT D'UNE INITIATIVE DE FORMATION A LA FIÈVRE APHTEUSE

Le Secrétaire indiqua que des progrès limités avaient été réalisés depuis la 72ème session sur cette initiative à cause des contraintes de temps. Il est nécessaire de travailler plus afin d'évaluer le coût des éléments de la proposition.

Au cours de la discussion, il fut admis que l'initiative avait été initiée à cause de l'intérêt des pays européens indemnes et qu'il était nécessaire de progresser du fait que l'initiative datait d'avril 2005. Le Comité s'accorda que le Secrétariat devrait indiquer ses idées sur la façon de procéder, en incluant l'identification des ressources humaines supplémentaires là où nécessaire.

10. POINT 10 : COMITE TECHNIQUE PERMANENT DU GROUPE DE RECHERCHE

a. Mise à jour depuis Insel Riems, Allemagne, septembre 2005

Le plan de travail et les progrès furent présentés par le Dr de Clercq **(Annexe 17).** Le nombre de tâches était élevé, des progrès ont été accomplis sur la plupart et les rapports en sont attendus à la session du Groupe de recherche à Eilat. Il discuta avec le Secrétaire de la poursuite du plan de travail et débattit des domaines où il y aurait des retards. Les évènements récents dans le contrôle de la FA en Turquie et en Iran ont soulevé de nouvelles questions techniques, dont certaines trouvèrent réponse immédiatement; d'autres nécessitèrent plus de temps pour les revoir. Il demanda que la Commission considère comment le Groupe pourrait être plus activement géré afin de s'assurer que les priorités seraient traitées et que des tâches ne seraient pas oubliées.
le Président remercia le Dr de Clercq et exprima sa reconnaissance pour les précieux efforts du Groupe de recherche.

b. Programme de la session ouverte du Groupe de recherche de l'EUFMD, Eilat, Israël, octobre 2006

Le Dr de Clercq présenta le programme provisoire **(Annexe 19).** La date limite des requêtes pour présenter des papiers était le 15 juin, et à cette date, environ 40 avaient été reçus. Cela devrait conduire, par conséquent, à un programme chargé.

Le Dr Bruckner, OIE, indiqua que l'OIE serait en train de revoir les procédures afin d'accroître la vitesse pour restaurer l'état indemne de FA et il pourrait être utile que la session considère les contraintes techniques à la réduction de la durée de perte de cet état libre.
A ce sujet, l'opinion du Représentant danois était que la régionalisation des zones affectées par la maladie était en voie d'acceptation par les acteurs majeurs; ceux-ci ont réduit la nécessité de limiter les interdictions d'exporter en restreignant celles-ci principalement aux zones affectées.

c. Exercice de simulation – Surveillance après vaccination d'urgence dans un pays européen libre de fièvre aphteuse

Kris de Clercq passa en revue les progrès du travail sur l'application des tests NSP dans la sérologie post-vaccinale ; il reste quelques difficultés avec le plan de surveillance, et le choix des solutions possibles a des dimensions aussi bien politiques que techniques.
Le Groupe de recherche a identifié le besoin d'un atelier pour tester la préparation des groupes d'experts des services vétérinaires pour mettre en œuvre une surveillance post-vaccinale et, de ce fait, pour identifier les derniers problèmes de laboratoire, d'épidémiologie ou des décideurs dans l'application de la politique de « vacciner pour vivre ».

L'atelier est organisé autour de quatre objectifs **(Annexe 18)** :

Participants – l'atelier impliquerait 2 à 3 personnes de chaque pays : un épidémiologiste, un spécialiste de laboratoire et un expert venant du côté réglementation/gestion des maladies. Ils seraient confrontés à une situation et on attendrait d'eux qu'ils planifient et évaluent la surveillance de la circulation du virus et l'état indemne de l'infection, identifiant les problèmes et les solutions.

Calendrier : janvier 2007, ce qui permettrait aussi d'avoir les résultats de l'atelier en avance sur la réunion de la Commission scientifique de l'OIE en février 2007.

d. Problèmes posés : restrictions réglementaires des expéditions de virus aphteux entre les laboratoires nationaux de recherche en Europe

Le Secrétaire indiqua qu'au moins en deux occasions, des laboratoires avaient demandé à la FAO de les aider à obtenir de Pirbright des isolements de virus mais qu'ils étaient confrontés à des périodes d'un mois et plus avant que l'expédition ne puisse prendre place à cause des procédures de licences d'exportation. Dans le cas d'Israël, le pays demanda des isolats pour une production de vaccin d'urgence et le délai aurait pu être extrêmement sérieux.

Le Comité admit que les délais d'échange des virus de référence pouvaient avoir un impact sur la capacité de détection de nouveaux virus épidémiques ; en principe, il ne devrait pas y avoir de restriction entre les laboratoires nationaux de référence en Europe qui sont autorisés par leurs autorités compétentes à manipuler le virus aphteux vivant, lesquels sont répertoriés dans l'Annexe de la Directive de la CE.

11. POINT 11: ETATS FINANCIERS

Les états financiers **(Annexe 21)** furent lus et acceptés par le Comité Exécutif. Le Secrétaire nota que l'indicateur des revenus dans la ligne budgétaire des frais de voyage du projet MTF/INT/011/MUL, était en cours de révision ; la position correcte serait fournie avec le rapport de la session.
L'engagement et la contribution de la DG-SANCO au soutien des activités de contrôle de la FA via le fonds fiduciaire MTF/INT/003/EEC pour la période ont été reconnus avec reconnaissance.

12. POINT 12 : AUTRES SUJETS

- Information sur le Centre de Gestion de Crise (CMC) pour les urgences en santé animale à la FAO
Le Dr Domenech informa la session sur le développement du CMC à la FAO, qui représente une partie de la réponse à la situation de l'Influenza aviaire. Dans les situations d'urgence, la FAO peut maintenant utiliser des procédures grandement simplifiées, incluant les urgences de santé animale.
Depuis octobre dernier, il y a eu une énorme demande d'environ 40 pays, très similaire à la situation de l'OMS au cours du SARS ; il a été par conséquent proposé que la FAO établisse un centre international de crise avec l'OIE ; aujourd'hui, en fonction de l'étendue de la crise, le CMC peut mobiliser et démobiliser rapidement en

réponse à de nouveaux évènements, grâce au soutien de 5 pays et un document d'accord avec l'OIE et aussi avec l'OMS. Près de 90% des efforts se concentrent sur l'Influenza aviaire.

-Personnel :
Changements : L'Assistante administrative de la Commission (Egiziana Fragiotta) prendra un congé spécial sans salaire jusqu'à août 2007, et déménagera à Dublin pendant cette période. Sa remplaçante à court terme est Nadia RumiCh (au moins jusqu'à fin août 2006).
Le Président, au nom du Comité Exécutif, fit l'éloge de son excellent service à la Commission et demanda que les bons vœux et la gratitude du Comité Exécutif lui soient transmis.

- Acquisition de vaccins antiaphteux – proposition de changement des procédures FAO
Keith Sumption informa le Comité Exécutif sur les discussions tenues à la FAO sur l'amélioration de l'achat de vaccins antiaphteux. En ligne avec d'autres acquisitions de la FAO, on pourra demander aux producteurs de vaccins de passer par une procédure de pré qualification qui visera à la fois les spécifications techniques et le prix; ceux qui y satisferont entreraient dans un accord sur le prix (pour un an). Du fait que le prix et la qualité seraient déjà connus, la période de livraison pourrait être un facteur décisif entre des sociétés qui ont satisfait aux autres critères de pré qualification.
Ce système peut aider à la planification et à la rapide passation des commandes en situations d'urgence. Il devrait aussi avoir un impact important sur un autre problème : les gouvernements interrogent souvent la FAO sur ses opinions sur les producteurs de vaccins antiaphteux ; la pré qualification de producteurs serait de facto une reconnaissance de qualité.
La FAO envisage d'introduire des garanties supplémentaires au processus de pré qualification ; ceci peut comprendre la visite du site de production pour inspecter le système de gestion de la qualité ; et le test indépendant de lots du produit fini. Les deux aspects auraient des coûts et nécessiteraient des procédures normalisées ; Keith Sumption était d'avis que des experts européens pourraient aider à définir ce qui est requis.
Le Dr Füssel approuva qu'il serait bien de disposer d'un système de pré qualification, bien que l'on doive prendre soin de ne pas trop réduire les options d'achat car cela pourrait conduire à s'exposer au risque.

13. POINT 13 : PROCHAINES REUNIONS

a. On discuta du soutien que l'EUFMD doit fournir à la réunion FAO/OIE sur le contrôle de la FA au Moyen-Orient et en Afrique du nord. Une requête de 27 000 $ US pour soutenir la participation de pays à la réunion fut demandée à l'EUFMD/FAO ; il fut admis que l'EUFMD devrait fournir un soutien technique et, si besoin est, de nature administrative, mais que le budget pour les autres frais de réunion devaient être répartis entre l'OIE et la FAO ; le Dr Domenech accepta que la FAO fournisse un co-financement à celui de l'OIE.

b. Réunion annuelle du réseau OIE/FAO de laboratoires de la FA, au Botswana : on a discuté du soutien à fournir à cette réunion par le Comité de direction (FAO et OIE). Le Président proposa que cela soit réglé après réception d'une requête écrite du LMR

c. Date et lieu de la prochaine session : **le 74ème Comité Exécutif se réunira les 14 et 15 décembre 2006 à Rome, au siège de la FAO.**

Appendix 1

73rd Session of the Executive Committee
of the European Commission for the Control of Foot-and-Mouth Disease

Istanbul, Republic of Turkey
15-16 June 2006

AGENDA

Timetable - Day 1: Items 1 to 6; Day 2: Items 7 to 13
Items italicised indicate a report on the use of EC (SANCO) support via the EC/FAO Trust Fund will be given

Opening Statements

1. **Adoption of the Agenda**

2. **Activities of the EUFMD Commission since the 72nd Session of the EUFMD Executive Committee**

3. **Recent events and current situation with FMD in the region**
   a. **Report of Turkey**
      i. National situation including report on the origin, spread and emergency control of FMD type A (A22 like)
      ii. Emergency management of FMD (A22 like virus) in Thrace, 2006, including:
         1. *report on use of the 2.5 million trivalent vaccine doses donated by EC*
         2. *sero-monitoring of post-vaccination immunity*
         3. *plan for post-outbreak sero-surveillance in Thrace* (presenter : to be decided at pre-Exec meeting 14th June)

   b. **Regional situation – Iran**
      i. Surveillance report, and Report of Regional Surveillance workshop, Teheran 11-12 June 2006

   c. **Regional situation – type A (East African A type) epidemic in Egypt in 2006**
      i. Summary of EUFMD assessment and follow up missions to Egypt

   d. **Lessons learnt from the recent epidemics**
   e. **Recommendation of the World Reference Laboratory on vaccine stocks in the European national community banks**

4. **Upstream surveillance – actions to improve FMD surveillance activity in potential source countries**
   a. Sentinel sites in west Asia - collaboration with Pakistan on virus surveillance
   b. Surveillance in the western Sahel; mission to Niger, 2005
   c. Surveillance in eastern Sahel/Horn of Africa

5. **Strengthening of surveillance and planning of preventive vaccination in Turkey**
   a. Co-ordination of interagency inputs to FMD control
      i. Steering Group and Task Force (Government of Turkey/EC programme)
      ii. Response of SANCO to letter (15/2/06) of request to use MTF/INT/003/EEC Trust Fund to support 24 month capacity building for FMD control

6. **FMD control in Iran**
    a. *Progress report - Phase I of the EUFMD/EC/France supported actions on FMD surveillance and control*

7. **FMD control in the Trans-Caucasus**
    a. *Purchase of emergency A22 vaccine for the Caucasus*
    b. *Government of Turkey inputs:*
        i. *vaccination programme along Georgian border (including A22)*
        ii. donation/supply of trivalent vaccine (A22/O/Asia-1) to Caucasus countries
    c. *Status/progress of the long term FMD control project - FAO/OIE SubRegional Support Unit under GF-TADS*

8. **Proposal to extend the OIE/FAO FMD Reference Laboratory Network to a FAO/OIE Global Surveillance network**

9. **Report of the working group on development of a FMD training initiative**
    a. Progress report - costed Project Proposal

10. **Standing Technical Committee of the Research Group**
    a. Update since Insel Riems, Germany, September 2005
    b. Programme for Session at Eilat, Israel October 2006
    c. Simulation exercise - surveillance post-emergency vaccination in FMD free European country
    d. Issues arising: regulatory restrictions on FMDV shipments between National Reference Libraries in Europe

11. **Financial statements**

12. **Any other business**
    - Crisis response: development of a Crisis Management Centre for Avian influenza/TADS control (information point: J. Domenech)

13. **Future meetings**
    a. FAO/OIE Regional GF-TADS Meeting on FMD control in Near East and North Africa region – Jordan, September 2006
    b. EUFMD Open Session of the Research Group – International Control of Foot-and-Mouth Disease; TOOLS, TRENDS AND PERSPECTIVES. Eilat, Israel, 16-20 October
    c. OIE/FAO FMD reference laboratory network meeting, Nov 13th, BOTSWANA
    d. FMD surveillance and control – the challenge of regions with limited veterinary services (proposal for meeting in Nairobi in December)
    e. 74th Executive Session (venue and date to be fixed – Nov/December 06)

Appendix 2

DUTY TRAVEL - EUFMD COMMISSION
2006

ACTIVITY	*ACTION BY*	*LOCATION*	*DATES*	*PURPOSE*	*FUNDING**
CAUCASUS	Keith SUMPTION	Tbilisi, Georgia	18-24 June	Final FAO regional workshop organised through TCP/RER/3001, and planning meeting for actions in the buffer zone supported by EC on FMD	TF
TURKEY	Keith SUMPTION	Ankara	15-26 January	Emergency mission on AI	TCEOD (FAO)
	Robert Angus PAUL (UK)	Ankara	16 Jan.-3 Feb.	Urgent mission to evaluate AI situation	TCEOD (FAO)
	Matthias KRAMER (Germany)	Ankara	16-28 January	Urgent mission to evaluate AI situation	TCEOD (FAO)
	Keith SUMPTION	Istanbul	8-11 February	FMD Thrace – emergency mission	TF EC
	Jan BRAAMS-KAMP (Netherlands)	Istanbul + Edirne	16 February – 3 March	Emergency mission to advise Provincial Directors on implementation of emergency vaccination in relation to FMD outbreak in Thrace region	TF EC
	Keith SUMPTION	Istanbul	16-21 February	FMD Thrace – emergency mission	TF
	Koen MINTIENS (Belgium)	Istanbul	20-25 February	Emergency mission to assist with control of FMD outbreak in Thrace region	TF EC
	Keith SUMPTION	Ankara	1 – 4 March	Follow-up FMD surveillance emergency mission	Ticket borne by OSRO/GLO DSA – TF
	Mark BRONSVOORT (UK)	Istanbul, Turkey	13-15 June	Take part in pre-Executive meeting to determine necessity of further sampling for sero-surveillance following recent type A outbreaks and draw up plan of action if necessary	TF
FMD IN EGYPT	Scott REID (WRL-UK)	Cairo	14-17 March	Emergency mission to assist with control of FMD outbreak	TF
	Keith SUMPTION	Cairo	28 March-1 April	Follow-up to FAO expert mission on FMD outbreak	TF
	Simon BARTELING (Netherlands)	Cairo	5-9 June	To provide assistance on FMD vaccine production in Egypt upon request from the Government Authorities	TF

ACTIVITY	*ACTION BY*	*LOCATION*	*DATES*	*PURPOSE*	*FUNDING**
EUFMD MEETINGS	Kris DE CLERCQ (Belgium)	Istanbul, Turkey	14-17 June	73rd Session of the Executive Committee	TF
	Soren ALEXANDER-SEN (Netherlands)	Istanbul, Turkey	14-16 June	73rd Session of the Executive Committee	TF
EUFMD MEETINGS	Keith SUMPTION	Istanbul, Turkey	14-17 June	Pre-Executive meeting and 73rd Session of the Executive Committee	TF
TRIPARTITE MEETINGS					
	Keith SUMPTION	Paris, France	26-28 February	FAO-EUFMD/EC/OIE Emergency Tripartite meeting for FMD and other exotic diseases	Cost of ticket borne by OSRO/GLO DSA - TF
EFSA MEETINGS				**NONE SO FAR**	
OIE MEETINGS	Keith SUMPTION	Paris, France	21-26 May	74th OIE General Session	TF
	Kris DE CLERCQ (Belgium)	Paris, France	24 May	To take part in extra-ordinary meeting organised on 24 May organised during the 74th OIE General Session	TF
IRAN ***(Central Asia FMD Project)*** ***Funded by EC***	Dónal SAMMIN (Ireland)	Tehran	27 January – 5 February	To undertake mission in the context of implementing a programme of support for FMD surveillance and control in Iran	TF EC
	Francis GEIGER (project staff)	Tashkent, Uzbekistan	27/3 – 3 /4	To attend annual meeting of CVOs of Central Asian countries under project GTFS/INT/907/ITA	TF EC
	Keith SUMPTION	Tehran, Iran	11-16 March	FMD project supervisory visit and ECO/WHO/FAO High-level group meeting on AI epidemic	Funded by OSRO/GLO project
	Francis GEIGER	Paris, France	22-27 May	To discuss implementation of project activities	TF EC
	Ali REZA HONARI Reza Hassan ZADEH (Iran)	Pirbright, UK	13-28 May	Attend training session in WRL, UK	TF EC (Iran project)
	Nick KNOWLES				

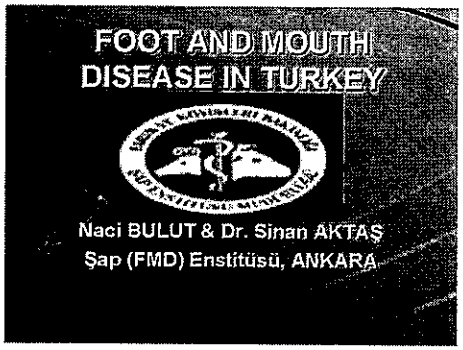
ACTIVITY	*ACTION BY*	*LOCATION*	*DATES*	*PURPOSE*	*FUNDING**
	(UK) Jean-François VALARCHER (Sweden) Abdulnaci BULUT Beytullah OKAY (Turkey) Mothafar D.S. AL-ABADI Abdul Rahem A. WALIE (Iraq) Gergos MAKSOUD (Syria)	Tehran, Iran	10-13 June	Attend 1st scientific meeting on FMDV circulating in the region, 11-12 June	
	Keith SUMPTION	Tehran, Iran	10-14 June	Attend and facilitate 1st scientific meeting on FMDV circulating in the region, 11-12 June	TF
OTHER	Tom MURRAY (APO)	Berne, Switzerland	19-25 February	Attend course on "Evaluation of complex surveillance systems", Berne, 20-24 February	APO funds
	Tom MURRAY (APO)	Ljubljana, Slovenia	5-6 March	Preparatory meeting for FMD simulation exercise to be carried out from 28 to 30 March	TF
	Keith SUMPTION	Beirut, Lebanon	5-8 April	GF-TADS Regional Steering Committee for the Middle East	TF
	Tom MURRAY (APO)	Berne, Switzerland	18-22 June	Course on predictive modelling	APO funds
	Tom MURRAY	Ljubljana, Slovenia	26-30 June	FMD simulation exercise	Organisers

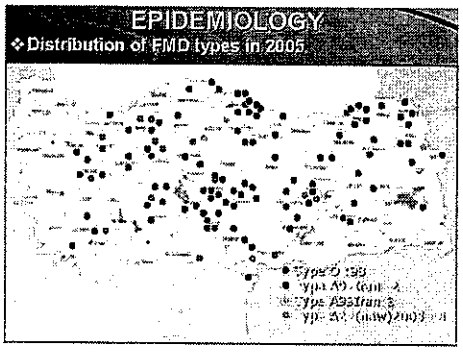
* TF = Trust Fund 904200 (Project MTF/INT/011/MUL)
TF EC = Trust Fund 911100 (Project MTF/INT/003/EEC) – EC funded project
APO funds = Project GCPA/INT/012/IRE – Associate Professional Officer Project (funded by Ireland)
OSRO/GLO/504/MUL = FAO project – multi-donors

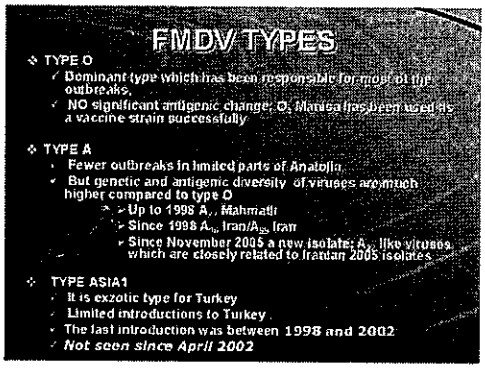
Appendix 3

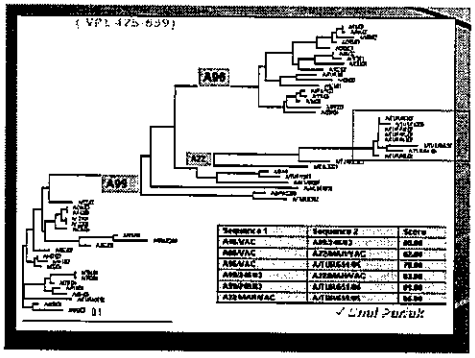
FOOT AND MOUTH DISEASE IN TURKEY

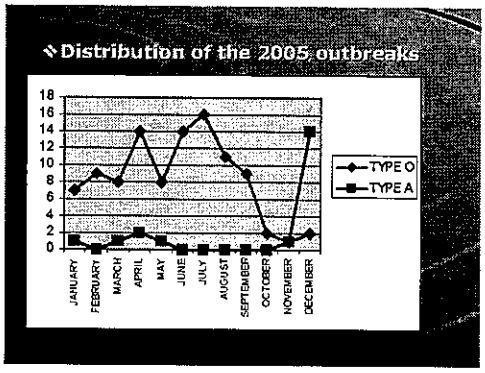
Naci Bulut and Dr Sinan Aktas
SAP Institute, Ankara

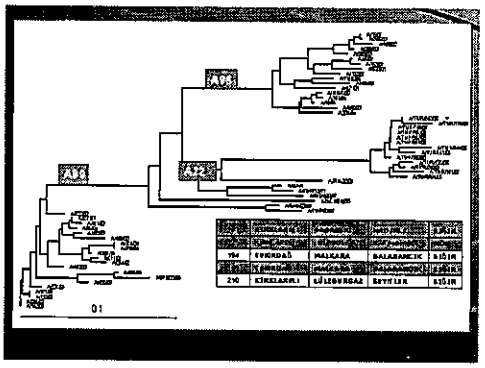


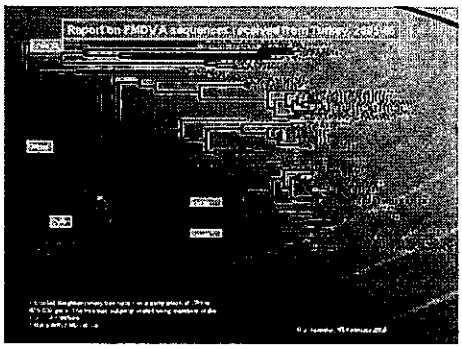


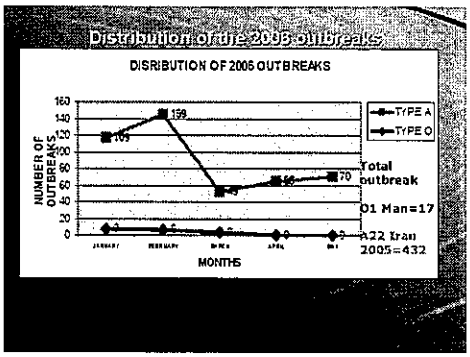


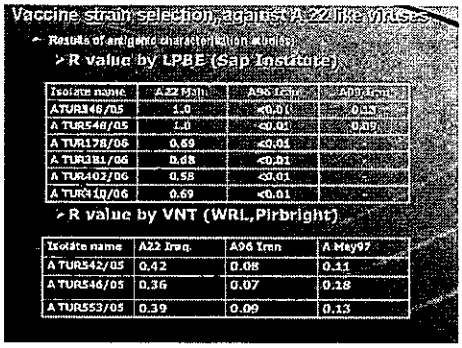






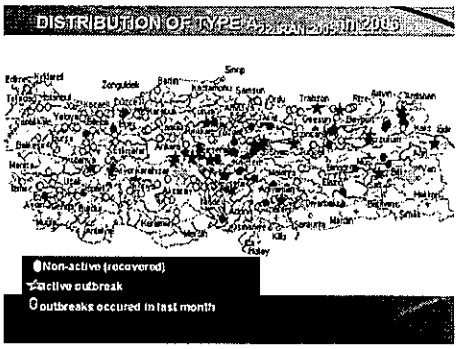






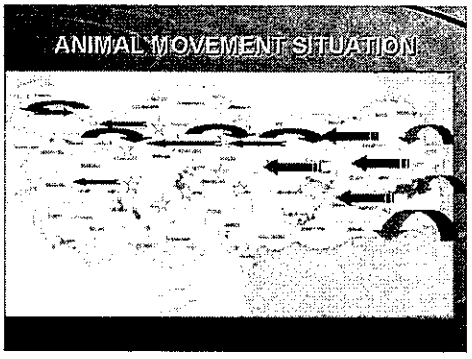
Isolate name	A22 Iraq	A96 Iran	A99 Iran
A TUR346/05	1.0	<0.01	0.25
A TUR548/05	1.0	<0.01	0.01
A TUR178/06	0.69	<0.01	
A TUR381/06	0.68	<0.01	
A TUR402/06	0.55	<0.01	
A TUR410/06	0.69	<0.01	

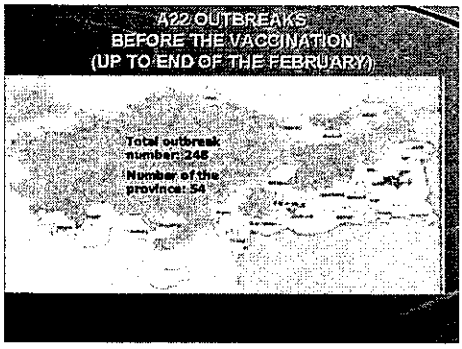
Isolate name	A22 Iraq	A96 Iran	A May97
A TUR542/05	0.42	0.08	0.11
A TUR546/05	0.36	0.07	0.18
A TUR553/05	0.39	0.09	0.13



Vaccine Matching by Neutralisation

Strain	A22 Iraq	A24 Cruzeiro	A Iran96	A May97	A Iran97	A Sau95	A5925	A Iran2005
A Iran 32/01	0.13					0.13	0.31	0.19
A Iran 32/01	0.18	0.05		0.06		0.2	0.47	0.1
A Iran 07/04	0.61	0.05	0.11	0.09	0.12	0.13		
A Iran 32/04	0.16	100% cpe	0.44	100% cpe	0% Ir	0.12	0.27	0.1
A Iran 23/04					0.12	0.12		
A Iran 55/01	0.13	100% cpe	0.14	0.12				
A Iran 27/03	0.13	0.07	0.08	0.06		0.09	0.12	0.03
A Iran 12/03	0.18	0.07	0.24	0.14		0.09		0.17
A Iran 41/01	0.33	0.05	0.31	0.08				
A Iran 27/02		0.13	0	0.13	0.22			
A Iran 03/03	0.1					0.31	0.67	0.36
A Iran 11/03	0.1					0.35	0.51	0.29
A Iran 07/03	0.23		0.24			0.47	0.91	0.41
A Iran 40/01	0.15		0.31			0.26	0.15	0.25
A Iran 31/01	0.13	0.06	0.20	0.35	0.25			
A May 03/04			0.33	0.44	0.22	0.19		
A May 04/04			0.20	0.17	0.17	0.09		
A Tur 68/04		0.07	0.17	0.28	0.25			
A Tur 69/04		0.05	0.16	0.26	0.28			
A Vet 64/04		0.10	0.22	0.29	0.15	0.07		
A Vet 65/04		0.07	0.21	0.28	0.23	0.11		
A Iran 01/03	0.26	0.08	0.09	0.05	0.15			
A Iran 02/03	0.28	0.09	0.09	0.07	0.14			

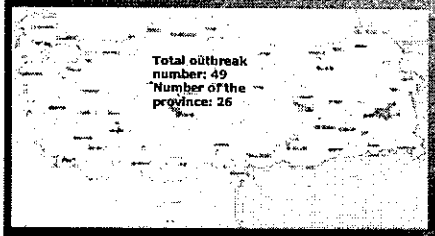




What was the situation before this new A epidemic in Turkey?

- The outbreaks were under control by mass vaccination and other control measures before the introduction of new type A
- The dominant type was O_1 Manisa
  - type O manisa:98
- Type A outbreaks were very limited:
  - type A96 Iran: 2 and
  - type A99 Iran: 3

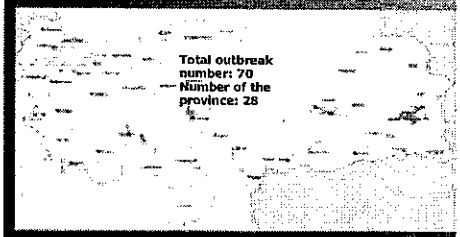
A22 OUTBREAK AFTER THE VACCINATION



CONTROL MEASURES

- **Vaccination**
  - ✓ Mass vaccination policy is the main element of control measures and ring vaccination around the outbreaks
    - Large Ruminants
    - Twice a year with trivalent (O, A and Asia1) Oil adj. vaccine
    - Small Ruminants
    - Once a year in Thrace and Marmara regions.
- **Animal movement control**
- **Quarantine**
- **Slaughter: only in Thrace region**
- **Surveillance and monitoring**
  - Active surveillance and monitoring programme
  - Outbreak investigation
  - Serological surveillance in Thrace region

A22 OUTBREAKS LAST MONTH (MAY 2006)



The new situation:
Following introduction of A 22 like viruses

A new A type (A22 Iran 2005):

- Detected first time in Elazig province in Anatolia at the end of November 2005,
- Extent and pattern of infection were investigated
- First entrance date was earlier
- It was assumed that "index case" was in Igdir province (unreported case)

LABORATORY STUDIES

- The laboratory detection was made by Antigen Capture Sandwich ELISA
- Genetic analysis and antigenic characterization were made by Nucleotide Sequencing and LPBE/VNT
- Genetic and antigenic studies indicated that it was different from existing types, namely A 96 and A99 Iran
- A new isolate, antigenically related to A_{22} and genetically close to Iranian 2005 isolates
- Information was exchanged with Pirbright
- Studies wetre initiated for the production of vaccine using A 22 Mahmatli

Vaccination figures

	Large Ruminants			Small Ruminants		
	Programme	Vacc.	%	Programme	Vacc.	%
ANATOLIA	9.611.857	6.943.394	72	1.757.334	1.721.279	98
THRACE	527.153	464.630	92	900.180	737.123	82
TOTAL	10.139.010	7.408.024	73	2.658.114	2.459.402	92

Vaccine production

- The first batch of vaccine including A 22 Mahmatli was produced in the beginning of February 2006 and distributed to the field.
- Vaccine was produced as trivalent double oil adjuvant.
- Vaccine antigen was concentrated and purified by PEG (Batch 5, 7 and 8).

Vaccine monitoring

- In addition to the tests carried out in Sap Institute were collected from the field were tested to determine the herd immunity levels. The results were as follows:

Batch Num.	Num. Of Sera	Protection Level %		
		Type O	Type A22	Asia-1
01/06	337	91.6	90.6	80.6
02/06	269	91	88	78
03/06	280	86	89.4	78.8
04/06	304	97	97	94
05/06	198	92.3	93	82
06/06	nd	-	-	-
07/06	nd	-	-	-
08/06	nd	-	-	-

Vaccine production(2)

- A total of 8 batch of vaccine (8.200.000 doses as trivalent) were produced and distributed for the spring vaccination campaign
- Studies to prepare vaccine from the original field strain are still in progress.

ASSESMENT

General Consideration

- The spread of the disease was very rapid and especially unvaccinated and primovaccinated young animals were severely affected.
- The infection was milder in regularly vaccinated older animals due to partial protection.
- The disease was controlled quite rapidly as a result of application of efficient control measures (rapid and intensive vaccination, quarantine and slaughter of infected animals) in Thrace, Marmara and Eagean Regions.

ASSESMENT(2)

The problem continues in some regions due to;

- Two major epidemics concurrently (AI and FMD)
- Intensive animal movements
- Insufficient control measures
  - Insufficient manpower
  - Insufficient vehicles
- Severe winter conditions
- Seasonal changing
- Poor notification
- Lack of disease awareness
- Insufficient vaccination coverage
- Short immunity following primovaccination and difficulties for the application of booster vaccination

DIFFICULTIES

- Concurrent AI outbreaks
- Severe winter conditions
- Insufficient human and vehicle resources
- Non-availability of vaccine

ASSESMENT(3)

The needs for emergency preparedness?

- Establisment of an international disease alert/network system,
- Exchange of disease information transparently,
- Readiness for emergency vaccination. Establishment of a regional vaccine/antigen bank
- Exchange of current virus strains circulating in the region (this can be done through WRL and/or EUFMD).

Sero-monitoring of post-vaccination immunity

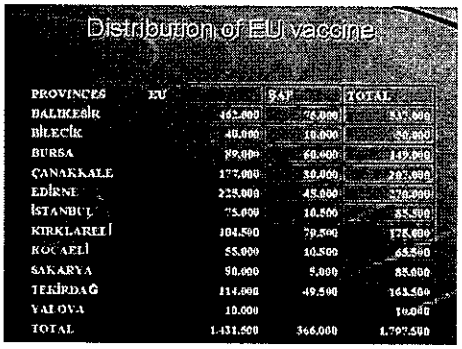
ENT NO	PROVINCE	DISTRICT	VILLAGE	VACCINE
10	ÇANAKKALE	Ayvacık	Çınarlı	AFTOVAX
17	ÇANAKKALE	Çanakkale	Kepezli	AFTOVAX
53	ÇANAKKALE	Gelibolu	Kavakköy	AFTOVAX
61	EDİRNE	Merkez	Dağyenice	SAP
72	EDİRNE	Enez	Gaziköy	AFTOVAX
97	EDİRNE	Merkez	Kızılcadağ	Negatif
9	İSTANBUL	Çatalca	Belgrat	AFTOVAX
35	İZMİR	Kemalpaşa	Boğazköy	AFTOVAX
46	İSTANBUL	Silivri	Kadıköy	SAP
104	KIRKLARELİ	Merkez	Dolhan	SAP
120	KIRKLARELİ	Babaeski	Mutlu	SAP
113	KIRKLARELİ	Lüleburgaz	Bakacak	Negatif
142	TEKİRDAĞ	Saray	Kızılcaköy	AFTOVAX
170	TEKİRDAĞ	Malkara	Karacaköy	AFTOVAX
168	TEKİRDAĞ	Merkez	Kayacık	SAP

Thrace 2006

- 16 outbreaks
- 153 cattle slaughtered
- Vaccination started with the vaccine produced by Sap Institute on 11th of February

Thrace Serosurveillance-2006

PROVINCE	AIM	NUMBER OF VILLAGES	NUMBER OF SERA	RECEIVED
İSTANBUL	RSP	49	3072	3072
ÇANAKKALE EDİRNE KIRKLARELİ TEKİRDAĞ	RSP	145	9280	9280
5 PROVINCES 3 VILLAGES EACH	POST VACCINATION	15	900	540
TOTAL			13332	12992



Distribution of EU vaccine

PROVINCES	EU	SAP	TOTAL
BALIKESİR	162.000	75.000	237.000
BİLECİK	40.000	10.000	50.000
BURSA	89.000	60.000	149.000
ÇANAKKALE	177.000	30.000	207.000
EDİRNE	225.000	45.000	270.000
İSTANBUL	75.000	10.500	85.500
KIRKLARELİ	104.500	70.500	175.000
KOCAELİ	55.000	10.500	65.500
SAKARYA	90.000	5.000	95.000
TEKİRDAĞ	114.000	49.500	163.500
YALOVA	10.000		10.000
TOTAL	1.431.500	366.000	1.797.500

Appendix 4

FAO/OIE/EC Tripartite Group Special meeting
Prevention and control of Foot-and-Mouth Disease (A22 and other types) in the southern Balkans

Held 28th February in Paris, France.

Introduction

A special meeting of the Tripartite Group, held in response to the request of Turkey and Bulgaria to FAO was convened on the 28th February at the OIE. Given the new emergency situation with FMD in Turkey and other parts of the eastern Mediterranean that developed in 2006, it was decided by FAO and OIE that the special meeting should focus on FMD prevention and control, with the regional avian influenza situation discussed under the immediately preceding FAO/OIE meeting. The meeting was attended by delegates of south eastern Balkan countries of Greece, Bulgaria, Turkey , Romania, Former Yugoslav Republic of Macedonia, by members of the EUFMD Executive Committee, and observers from neighbouring regions (Russian Federation, Iraq, Kuwait). The meeting was Chaired by Dr de Leeuw, Chairman of the EUFMD Executive Committee.

Item 1. The Agenda was adopted without change.

Item 2 FMD control – current situation and control measures for type A22 outbreaks in Thrace and other regions of Turkey.

Report of Turkey

Dr Haluk Askaroglu provided the report on behalf of the Turkish Government, General Directorate of Protection and Control. A serious situation had developed since the end of November 2005, involving a strain of FMD type A that was closely related to viruses from Iran to which the routine trivalent vaccination in Turkey (containing antigen related to A Iran 96) provided almost no cross-protection. In the period June to October 2005 type A outbreaks had not been observed in Turkey and therefore on detection of type A from outbreaks in Elazig province, central south-east Anatolia, followed by additional outbreaks to the west in involving a wide age range of affected cattle and small ruminants, led to additional investigations which detected an exotic type A virus with VP1 sequences closely matched to A type viruses from Iran. Infection quickly spread to many Provinces of western Anatolia in December 2005 and January 2006. The spread in January may have been assisted by animal movement ahead of and following the kurban festival in the second week of January. On 7th February 2006 Turkey notified the OIE of the occurrence of FMD in Thrace region, with the index case in Kirklareli province. By the 28/2, 10 further outbreaks had been confirmed, involving Kirkalerli and Tekirdag provinces[1].
Antigenic matching in Turkey conducted immediately after detection of the new virus indicated that the A22 vaccine should provide cross-protection and therefore the FMD (SAP) Institute had immediately begun production of the new component, with some 3 million cattle doses being produced by 9th February for immediate use in ring vaccination to contain outbreaks. Given the widespread distribution, this vaccine was not enough to enable all Provinces to receive their required doses for the population at risk. Vaccine had been provided to Thrace region on 10th February, according to their requests, and Kirklareli Provinces had begun vaccination on the 11th. He indicated that Turkey was grateful to the EC for provision of 2.5 million doses of Trivalent A22 Iraq/O Manisa/Asia-1 vaccine which had arrived 27/2, following rapid decision of the EC as a result of the mission of the EUFMD Secretary to Thrace on 8-10th February.
Regarding special measures in Thrace region, he indicated that all markets were closed since 4th February but movements to slaughterhouses allowed. For the first time slaughter was applied with compensation. However because of financial constraint this is mainly limited to clinically sick animals in the early stages of infection.

Report of the EUFMD Technical Missions to Thrace region, 8-11th February and 17-20th February

Dr Sumption, EUFMD Secretary, reported on the two missions (**Annex 2**) conducted on behalf of EUFMD Commission immediately following the report of Turkey to the OIE on 7th February. During first mission, situation reports to the EC had assisted decisions to be made on provision of emergency vaccine, and the mission

[1] On 1/3 a further 4 outbreaks were reported to the OIE, including one in Edirne Province.

report was made available to neighbouring countries and provided for the Standing Veterinary Committee in week beginning 12th February. A second mission was considered necessary to assess the application of the vaccination program and provide guidance on the program of vaccination in light of the new outbreaks detected after the first mission.
He thanked the General Directorate for their willingness to share all information. He had been impressed by the dedication of the field veterinary services, which had the difficult position of responding to both AI and FMD outbreaks in exceptionally difficult winter conditions. He indicated that the period of March 06 would remain a high risk period, and that all should be aware that until sufficient vaccination had been applied, new infections must be expected within affected villages and to new locations. Further, he considered that a virus contamination within some or most affected villages would be heavy as a result of delayed and limited slaughter, and therefore under cool winter and spring conditions, new infections may occur up to several months after the outbreaks if cleansing and disinfection was not rigorously effected. Since the previous autumn vaccinations were to protective to the new virus, the epidemic behaved as if it were an unvaccinated population, and therefore biosecurity measures are of the highest importance. He indicated these measures would be needed for some period after vaccination in affected villages because of the contamination on affected holdings.

In addition, he drew attention to the fact that the slaughter of sick animals into the food chain, without deboning or processing, presented a risk that virus would be present in meat, bone marrow which could act as a source of infection, mainly for pigs. This may be of limited concern to Turkey but the additional of several hundred tonnes of such material into the food chain could increase risk for other countries, if there were to be illegal import of such material.

Discussion

Report of Greece

The representative of Greece indicated that following the alert message to the OIE, actions had been taken to increase awareness in the VS of the Prefectures bordering to Turkish Thrace. The position of Greece was to request the Turkish authorities to complete vaccination as soon as possible in Edirne Province, with priority to districts along the border with Greece, and in the whole of Thrace region. The Greek Government was highly appreciative of the role played by the EUFMD Commission in this crisis, which had ensured a better understanding of the risk situation.

Report of Bulgaria

Dr Boiko Likov presented the report of Bulgaria. The Bulgarian authorities had responded to the OIE alert and to additional information supplied via the EUFMD Commission as a result of the first mission, with a number of measures taken to prevent possible entry of infection across the common border with affected provinces of Turkish Thrace and to increase surveillance for infection in villages and districts considered to be under the highest risk.
However, given that the outbreaks occurred so close to Bulgarian border, such as the outbreak in Demirkoy District, he considered the information on each outbreak given in the OIE reports was not sufficient and requested more detail to be provided to assist the risk assessment.

Report of Romania

Dr Olaru provided a report indicating the measures being taken in Romania.

Discussion on FMD control in the region

The representative of the EC asked why Greece had not applied the set of surveillance actions ("Evros" programme) in the at risk region that had been put in place after the Asia-1 outbreaks of FMD in Thrace in 2000. He urged Greece to ensure that a similar program was applied in the current circumstances, to be continued until it was clear that the risk had returned to the normal situation.
The answer indicated that the program had not been revived because of finance.

Several delegates questioned the use of slaughter rather than culling for disease control, indicating their unease that virus infected material could enter the food chain and present a risk of new outbreaks, particularly in countries with pigs. Dr Sungur indicated that available budget for compensation as limited, and therefore the slaughter for consumption was used to reduce the financial impact.

The question of measures to prevent illegal meat export from the region into neighbouring countries was also raised.

The representative of the Russian Federation raised the issue of the risk to the Caucasus countries and Russia. He also indicated the concern of Russia that the Asia-1 infection in the east Siberian region was an antigenic variant that is not well matched by the current Russian vaccine. He expected westwards spread, as a result of infection in the neighbouring countries.

Dr Sumption indicated EUFMD Commission had provided a warning to the 3 south Caucasus countries, and following this Azerbaijan had negotiated with Turkey for the supply of 200,000 doses of A22 vaccine for use in the border region. He indicated that the countries would need to increase their vigilance to prevent entry of infection, and that the EUFMD Commission had launched a tender for 300,000 doses of A22 vaccine to provide a reserve for emergency vaccination for the region, to be made available if the type was detected. Further, preventive measures within Turkey could assist to prevent spread to the Caucasus and he appealed to Turkey to undertake a thorough program of preventive vaccination against A22 in the north-east.

Recommendations

1. In addition to fulfilling the reporting requirements to the OIE, where outbreaks occur close to the border with a neighbouring country, additional information should be provided to assist risk management. The information of value will depend on the circumstances but in most cases will include further information on the circumstances of the outbreak and of the timing and nature of measures taken. These should be followed by a later follow-up report to provide supportive evidence that the outbreak has been contained.
2. Heightened clinical surveillance and a programme for serological surveillance should be conducted in the border regions of Greece and Bulgaria with Turkish Thrace, for FMD, and should include also PPR, BT and SGP because of the increased possibility that the events that lead to FMD in Thrace may have increased risk of other infections.
3. The risk from the eastern Mediterranean region must be kept constantly under review, given the risk of extension of the new A type virus in Turkey and of the different type A infection in Egypt to other countries in the region
4. Member states should take into consideration that risk may have increased to distant parts of the region , since illegally imported animal products may carry a higher risk as a result of the change in number of viraemic animals being slaughtered.

Relating to the control of FMD in Turkish Thrace:

5. Completion of the vaccination against the new A type virus in Edirne, Kirklareli, and Tekirdag provinces of Turkish Thrace should be considered of the highest priority and the Government of Turkey is strongly encouraged to provide the resources required to complete this task within the shortest time period, and certainly by the end of March 2006.
6. The emergency vaccination campaign should take into considerations the findings and recommendations of the EUFMD missions, in particular to avoid gaps in the population immunity by the inclusion of small ruminants and of young animals,
7. Increased effort should be made to contain infection within the affected districts, with particular attention to apply and enforce measures to reduce risk that infection can exit from infected locations by vehicles and other physical means, from locations where the weight of infection or virus contamination is considered highest.
8. Every effort should be made to ensure that the population immunity in Thrace region remains sufficient before and after release of animals to summer grazing, to counter the risk from continued outbreaks in Anatolia.
9. The policy of allowing bone-in meat from animals have clinical signs of FMD , or have been in contact with these animals, to enter the food chain without processing to reduce the risk, is strongly discouraged.
10. The authorities are encouraged to set establish a specific crisis centre to supervise and monitor the control campaign in Thrace region, in particular to oversee the vaccination campaign and of the other control measures being applied.

11. The need for follow up vaccination should be identified by a study in vaccinated animals. The study design should be agreed with the EUFMD Commission and implemented in March-May 2006.
12. Post-outbreak surveillance should be undertaken to determine the locations and risk of undetected infection, with a modified design to that developed in December 2005, to take into consideration the new situation.
13. The authorities are encouraged to review measures taken on suspicion or confirmation of FMD, with a view to early adoption of the principles and measures indicated under the Council Directive 2003/85/EC.
14. Surveillance actions, to assess the level of implementation and success of disease control measures, and to improve early detection of FMD infection and risk assessment, should be conducted in 2006 in areas of Anatolia, including western Anatolia. The EUFMD Commission should assist Turkey to develop and undertake these actions.

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LIST OF ANNEXES

Annex 1

REPORT OF TURKEY

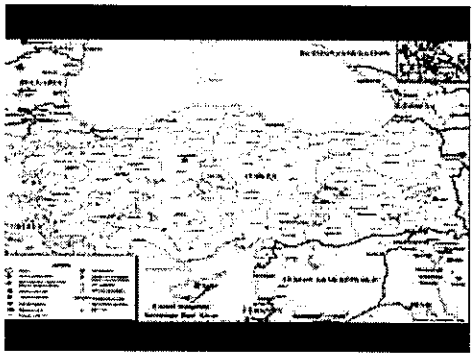
REPUBLIC OF TURKEY
MINISTRY OF AGRICULTURE AND RURAL AFFAIRS
GENERAL DIRECTORATE PROTECTION AND CONTROL

COUNTRY REPORT
By
[illegible]

[illegible]

General Directorate of Protection and Control (GDPC)

- Animal Health Services Department,
- Animal Movement and Quarantine Services Department,
- Public Health Services Department,
- Veterinary medicine, products of animal origin, feeding stuffs and fisheries are carried out under the responsibility of other head departments.



LIVESTOCK INDUSTRY

Cattle	11.031.000	9.804.000
Buffalo	176.000	121.000
Sheep	29.435.000	18.394.000
Goats	8.057.000	6.780.000
Horse	330.000	249.000
Male	133.000	95.000
Donkey	603.000	417.000
Camel	1.400	850
Pig	5.000	4.600
Chicken	236.997.651	285.776.000
Duck	1.939.468	532.000
Geese	1.771.373	1.400.000
Turkey	3.803.345	9.092.000
Total (Avian Population)	243.943.771	251.100.000

Organization of Veterinary Services in Turkey

Veterinary services are rendered by the GDPC under MARA through :

Provincial and District Directorates,

8 Veterinary Control and Research Institutes,

[illegible]

5 Quarantine Stations,

Provincial Control Laboratory Directorates.

Notifiable Diseases

1	Rinderpest	18	Fowl Plague
2	[illegible]	19	Newcastle
3	Bovine Tuberculosis	20	Salmonella pullorum
4	Bovine Brucellosis	21	Salmonella gallinarum
5	BSE	22	American Foul Brood (Bee Disease)
6	Anthrax	23	Nosema (Bee Disease)
7	Rabies	24	Infectious Hematopoietic Necrosis (I)
8	Sheep and Goat Pox	25	Scrapie
9	Caprine and Ovine Brucellosis	26	PRS
10	PPR	27	Hanamosis
11	Blue Tongue	28	Marteliosis
12	African Horse Sickness	29	Spring Viraemia of Carp (SVC)
13	Glanders	30	Viral Haemorrhagic Septicaemia (VHS)
14	Dourine	31	Infectious Pancreatic Necrosis (IPN)
15	Equine Infectious Anemia	32	Bacterial Kidney Disease (BKD)
16	Vesicular Stomatitis	33	Crayfish Plague
17	Equine Encephalomyelitis		

FMD SITUATION

- A (Antigenicaly related to A22 vaccine Strain)
- O_1 Manisa
- Asia 1 *(never seen since April 2002)*

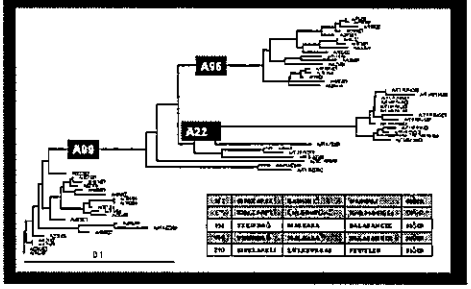
FMD Outbreaks in 2005

MONTH	OUTBREAKS				SUSCEPTIBLE		INFECTED		DEATHS	
	O	A	Not Typed	Total	Cattle	Sheep	Cattle	Sheep	Cattle	Sheep
January	7	1		8	829		36			
February	9			9	587	315	30	41	7	41
March	9	2		11	787	1261	217	159		50
April	14	2		16	563		138		21	
May	7	1	4	14	2640	1	139	1	2	
June	14			14	1552	2491	411	350	10	
July	10			10	572		229			
August	9		2	11	444		246		1	
September	9		1	10	1245		199		1	
October	2		1	3	93	91	17	50		
November	1	1	1	3	70		22		4	
December	2	12		13	432		154		6	
TOTAL	100	17	9	128	9915	5786	1892	602	52	91

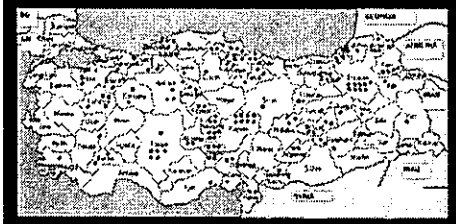
FOOT AND MOUTH DISEASE SITUATION IN TURKEY 2005

- Foot and mouth disease is endemic in Anatolia with 3 serotypes (O_1, A and Asia 1).
- There were 128 FMD outbreaks occurred in Turkey, 2005
  - 100 outbreaks due to type O
  - 19 outbreaks due to type A
  - 9 outbreaks due to not typed
- Type O was responsible for most of these outbreaks.
- Strict measures such as quarantine, disenfection, movement bans and ring vaccination in the regions where FMD occurred have been taken.

FMDV A Sequences in Thrace



FMD Outbreaks in 2005



FMD Situation for Type A in 2006

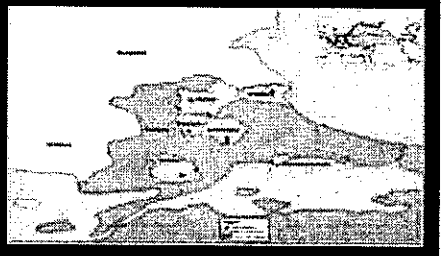
- Up to date, the disease was determined in 14 provinces.
- Among 14 provinces, 27 outbreaks were confirmed

FMD Outbreaks for Type A in 2006

Control Programme

- Surveillance and monitoring
  - Active surveillance and monitoring programme
  - Outbreak investigation of FMDV.
  - Serological surveillance in Thrace region.

FMD Situation In Thrace



Control Programme

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

Large Ruminants

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

Small Ruminants

- Application of routine mass vaccination once a year at least 80% of all small ruminants in the Thrace and Marmara regions.

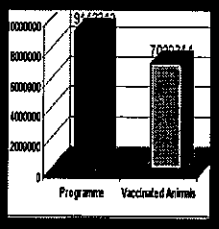
Control Programme

- Surveillance and monitoring
- Vaccination
- Animal movements control
- Strict measures and quarantine
- Compensation (Thrace Region)
- Other measures

Control Programme

- Vaccination
  - Spring vaccination campaign with using trivalent vaccine in selected east and eastern anatolia and with using bivalent vaccine in other regions in March and April
    - *Thrace and Marmara Region:* Vaccination of all ruminants
    - *In the other regions in Turkey:* Vaccination of all large ruminants
  - Autumn vaccination campaign with using trivalent vaccine in all country in September and October
    - *Thrace and Marmara Region:* Vaccination of all large ruminants
    - *In the other regions in Turkey:* Vaccination of all large ruminants

Spring vaccination campaign in Turkey in 2005

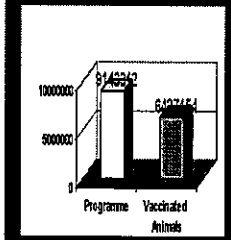


- All Country %77
- Thrace %87
- Marmara Region %88

Control Programme

- Animal Movements Control
  - *Strict control measures are performed* on the borders working with the coordination of the relevant authority. (Ministry of Agriculture and Rural Affairs, Ministry of Internal Affairs, Army, Custom etc.)
  - Some of the articles of the *Law of the Animal Health and Control has been changed* in order to provide adequate penalties for illegal traders and carriers (driver, vehicle).
  - *Establishing an identification and registration system* for bovine animals in Turkey.
  - Instruction from GDPC to provincial directorates for animal movement control

Autumn vaccination campaign in Turkey in 2005



- All Country %70
- Thrace %90
- Marmara Region %88

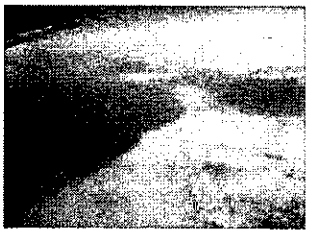
Control Programme

- Other Measures
  - Restriction of animal and animal product movements and quarantine measures are carry out as applied in the past
  - Infected animals will be slaughtered and, compensation will be paid in Thrace Region
  - A surveillance zone will be established and a monitoring program will be introduced in the south eastern border regions

Annex 2

OVERVIEW OF THE 1ST AND 2ND EUFMD MISSIONS TO THRACE REGION FEBRUARY 2006

Overview of missions to Thrace region –February 2006



Actions since reporting of the index case in Thrace

- 2 missions –
  - 9-11th February
  - 16th Feb -3rd March (ongoing)
- Support to sample delivery to WRL Pirbright
- Close consultation with EC-SANCO and OIE and neighbouring countries
- EC decision on supply of emergency vaccine taken very rapidly during first mission
- Excellent co-operation and support from GDPC and Provincial staff
- WRL Pirbright –sequencing and vaccine matching (results obtained 27/2)

Regional situation –type A spread

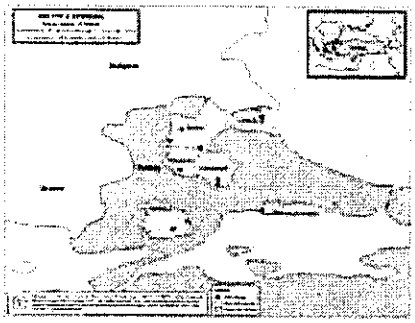
- Iran 2005-
- Turkey late 2005-
- Saudi Arabia 2006
- Egypt – different type A involved
- At risk – Caucasus, Balkans, other neighbouring regions
- Not only type A – factors involved may have introduced other FMD and other ruminant pathogens

New A type virus in Turkey
Suitability of A type vaccines
Report of FAO WRL Pirbright to Turkey: 27/2/06

	r1 Turkey/06 neutralisation test against vaccine strains below			
WRL Ref Number	A21	A22 IRQ 24	A/MAY 97	A/IRN
A TUR 1/06	0.42	0.38	0.21	0.41
A TUR 2/06	0.34	0.37	0.28	0.43
A TUR 3/06	0.39	0.38	0.23	0.41

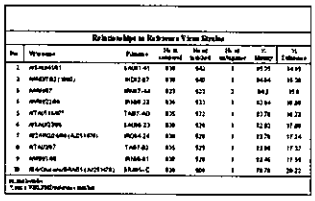
Interpretation of r_1 values

In the case of neutralisation,
$r_1 \geq 0.3$ Suggests that there is a close relationship between field isolate and vaccine strain. A potent vaccine containing the vaccine strain is likely to confer protection
$r_1 < 0.3$ Suggests that the field isolate is so different from the vaccine strain that the vaccine is unlikely to protect



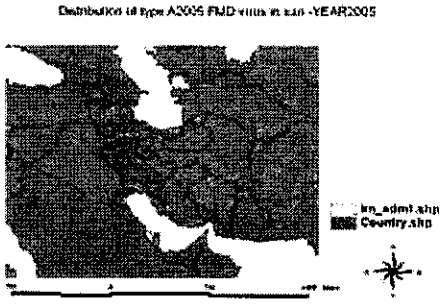
Ten Most Closely Related Viruses

No	Virus name	Pairwise	No. of nucleotides compared	No. of nucleotides matched	No. of nucleotides mismatched	% identity	% difference
1	A/TUR/1/2006	TUR06-01	639	639	1	99.84	0.16
2	A/IRN/1/2005	IRN05-13	639	637	1	99.84	0.16
3	A/IRN/16/2005	IRN05-16	639	637	1	99.84	0.16
4	A/TUR/2/2006	TUR06-02	639	637	1	99.84	0.16
5	A/IRN/15/2005	IRN05-15	639	637	1	99.84	0.16
6	A/IRN/14/2005	IRN05-14	639	636	1	99.53	0.47
7	A/IRN/4/2005	IRN05-04	639	636	1	99.53	0.47
8	A/IRN/14/2004	IRN04-14	639	636	1	99.53	0.47
9	A/IRN/1/2005	IRN05-01	639	635	1	99.22	0.78
10	A/IRN/1/2005	IRN05-01	639	635	1	99.22	0.78



Relationships in Reference Virus Strains

No	Virus name	Pairwise	No. of nucleotides compared	No. of nucleotides matched	No. of nucleotides mismatched	% identity	% difference
1	A/G/1/65	G-65-01	639	642	1	99.84	0.16
2	A/IRN/1/82	IRN82-01	639	640	1	99.84	0.16
3	A/IRN/97	IRN97-04	625	625	3	99.2	0.8
4	A/IRN/21/90	IRN90-21	639	633	1	99.84	0.16
5	A/TUR/13/97	TUR97-13	639	632	1	99.78	0.22
6	A/TUR/2/98	TUR98-02	639	629	1	99.84	0.16
7	A/IRN/24/90 (A21/IRN)	IRN90-24	639	629	1	99.78	0.22
8	A/TUR/97	TUR97-02	639	629	1	99.84	0.16
9	A/IRN/1/90	IRN90-01	639	629	1	99.84	0.16
10	A/G/Gaziantep/Bahce1/2001 (A/21/IRN)	BAH01-C	639	624	1	99.78	0.22

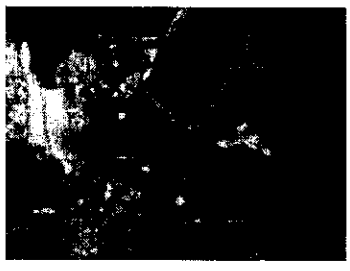


Thrace region – observations and findings of field visits undertaken 9-10th February

- **Epidemiologic observations**
- One rogue animal trader and one market (Havsa) involved in all outbreaks investigated;
- Entry, either as infected vehicle/animal estimated in period 8-20th Jan
- Infection travelled through Havsa market on at least two occasions (21/1 and 4/2)
- Market on 21/2 resulted in index case in Kirklareli Province and in Tekirdag
- Market on 4/2 spread infection to most of the 11 outbreak villages across two Province

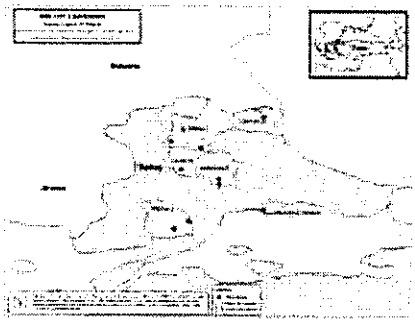
Epidemiologic features

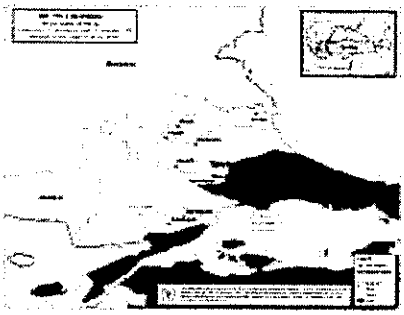
- *Inter village Spread involves contaminated vehicles; within village spread occurred even though animals are housed*
- *Transmissability indicates high animal susceptibility (as usual for non-vaccinated population)*
- *Winter conditions favour virus survival – favours transmission via vehicles and by people/fomites within villages- biosecurity must be high to be effective*
- *Movement controls and housing of cattle/sheep and goats - probably reduces risk and speed of spread to neighbouring villages compared to a summer epidemic*
- No new cases after 11/2 may indicate that after infection was seeded to villages on 4/2, secondary spread was limited by control measures and housing of animals.
- Early days yet - Caution required



Mission 2; first phase of emergency vaccination

- Meeting with Provincial Directorates, Edirne 19th Feb
- On the use of SAP Institute vaccine delivered for EV
- Apply EV in Phases, with first Phase being to
  - complete a north-south zone that includes
  - all 1) affected villages and districts,
  - 2) those immediately neighbouring on the west side
  - 3) those in Tekirdag in proximity to affected locations in Kirlareli.
  - This Phase to be completed within one week (by 28th Feb)





Risk remaining

- **The high level of environmental contamination likely to be present as a result of allowing affected animals to remain within the villages (slaughter has been applied late or not at at all) poses a high risk for spread to new locations until the period when population immunity is achieved through emergency vaccination.**
- **This contamination also poses a risk that re-infection can occur of animals introduced into contaminated barns (especially non-vaccinated small ruminants and calves)**
- **the critical period for disease control will be the period until population immunity is achieved in the most at risk population –some 7-14 days after vaccination**
- **First vaccinations in period 13-17th Feb, and expect new cases because of incubation period /insufficient immunity 3-4 week period after this.**
- **Therefore consider period to 10-17th March remains high risk**
- **Immunisation of all large and small stock must be achieved as a priority**

Second phase emergency vaccination

- **The second Phase would involve EV supplied by EC;**
- **Priorities:**
  - Complete Phase 1
  - to vaccinate the remaining parts of Edirne, Kirklareli and Tekirdag Provinces as a priority, within one month
  - Vaccination in Istnobul and European parts of Canakkale should also proceed but may be seen as less high priority
- **Species: vaccinate small ruminants also**
- **Ages: Vaccination of young animals could reduce the gaps in vaccination and protect vulnerable ages, since maternal immunity to A22 should not feature.**
  - The vaccination could be given to calves from a day of age (to reduce deaths in very young animals from FMD) , although MERIAL have suggested 2 months of age for the first vaccination on the basis of their own data

Capacity to undertake mass emergency vaccination

- *Capacity to undertake mass emergency vaccination is limited, at least short term since*
- - conditions affect mobility of teams
- - there are limited numbers of Government veterinarians in the Provincial Directorates (e.g. 4 for 50,000 cattle in Malkara district in Thrace)
- - it takes time to hire in additional staff such as private veterinarians to undertake emergency vaccinations,
- - impact of avian flu surveillance and control measures on manpower availability

There is a therefore a major question on the rate/location/impact of emergency vaccination

- Tactical use of vaccine and veterinary services in surveillance will be essential, in addition to other measures
- The spring turn-out of animals to pasture can be expected in March-May according to local practice. This can be expected to assist disease movement/flare-up in affected locations
- There is thus a considerable risk that adequate vaccination will not have been achieved when turn out occurs.

Third phase

- **Booster immunisations needed**
  - Since the A22 is a primo-vaccination
  - Since high immunity required to provide protection against the new strain
  - Infection will remain in contaminated holdings
  - To reduce risk at turn out of animals in May
  - Priorities could be made - districts with confirmed infection

Other controls:

- Continue policy of slaughter without delay of clinical cases (risk also of in contact)
- Movements under strict control
- Markets to remain closed (duration should be considered according to situation in whole region)
- Post-outbreak surveillance important to prove level of immunity (and provide assurance that infected locations are known).

Supporting emergency vaccination

- Recognising that AI control is also a priority for Government staff
- and that vaccination needs to be controlled to ensure all relevant animals are vaccinated in correct manner
- 2nd mission has identified need to support GDPC to rapidly implement vaccination in priority areas
- Discussion on how: vaccinators and transport main constraints

Appendix 5

Mission Report –v 1

Second EUFMD/EC Mission to assess the FMD control situation in Thrace region 16 February- 3 March 2006

Persons involved in the mission

Keith Sumption, FAO, Rome, 16/2 –21/2, 1/3-3/3; Jan Braamskamp, Animal Health Service, The Netherlands, 16/2 – 3/3; Koen Mintiens, Veterinary and Agrochemical Research Centre, Belgium, 21/2 – 25/2. Adil Adiguzel, Animal Disease Combat section, GDPC Ankara, 17/2-25/2 and 2/3.

Summary

Thrace region has been affected a very serious FMD epidemic, resulting in seeding of infection into at least three Provinces of Thrace. The GDPC and the Provincial Directorates have demonstrated a high commitment to contain the epidemic, which occurred in difficult situation (concurrent AI outbreaks), in severe weather conditions, and involved introduction of new disease control practises (particularly the use of slaughter).

- A number of recommendations from the first mission of the EUFMD Secretary had been acted upon at GDPC and Province level.

At the Edirne meeting on 19th February, regarding the use of the first available (SAP Institute) A22 vaccine:

- Vaccination plans of three Provinces (Kirklareli, Tekirdag and Edirne) were reviewed and the team proposed priorities for vaccine use in period 20-28th February until EC vaccine became available;
- The issue of human and vehicle resources was raised by two provinces, and the team agreed to look in detail at how implementation of vaccination might be achieved

The main conclusions of the 2nd mission were presented to the GDPC on 28/2 in Paris (FAO/EC/OIE tripartite meeting), with follow up by the mission team (Sumption/Braamskamp) on 2/3/06 in Ankara.

At the final meeting the team re-iterated their view that the diseases situation required

- either a true stamping-out policy to be applied,
- or a much more rapid emergency vaccination campaign with associated control measures, including the killing of animals on infected holdings.

At the final (2nd March) meeting, and confirmed by discussions with Dr Arik on the 3/3, the GDPC indicated the gratitude of the Government of Turkey for the provision of vaccine by the EC and in relation to its use agreed to:

- Increase rate of vaccination to deal with the emergency situation
- complete first round vaccination of all cattle and small ruminants by 31st March in Thrace region
- document the rate of progress of vaccination, with weekly update collated each Monday with transmission to EUFMD/EC/OIE each Tuesday; data to be provided for each District of Thrace region;
- ensure that human and vehicle resources would be made available at the Province level to ensure the required rate of vaccination is achieved
- consider and respond to the other recommendations of the mission report, including on the age of vaccination and requirement for booster doses.

Main recommendations –immediate actions

Further details are given in the recommendations section.

1. Develop and rigidly enforce a vaccination timetable for completion of the FIRST round emergency vaccination in Thrace area
    a. Target: aim at completion of vaccination in one month or less:
        i. proposed finishing date : March 31st 2006
        ii. all cattle and small ruminants to be included, including young and pregnant animals

2. Central monitoring of the vaccination progress; PDs to send a daily update on the progress by District/village to GDPC
3. Plan for a SECOND round of vaccination to boost primary immunity;
4. Re-enforcement of bio-security in affected villages:
5. Improve information given to farmers and the other people involved
6. Transport of animals is only allowed direct to the slaughterhouse, under strict control
7. Monitor for the response and duration of A22 protection

Findings of EUFMD/EC mission 2

1. FMD control situation in Thrace at 2nd March 2006

- In Thrace 15 confirmed FMD-A22 outbreaks in 2006, in period 22/1 to 11/2;
- 11 of these outbreaks had notification dates in period 22/1 to 11/2 ;
- 4 new outbreaks notified in Thrace in the period 20/2 to 28/2, and reported to OIE on 1/3;
- The latest 4 outbreaks are significant:
    - Each occurred in areas where first round vaccination with SAP Institute vaccine had not been completed;
    - Edirne Province was affected for the first time (26th February)
    - These outbreaks are consistent with secondary spread from villages affected in period 4-11th February (full epidemiological inquiry needed)
    -
- outbreaks information for the first 11 outbreaks in Thrace was assembled by the mission team.

2. Current implementation of FMD control –aspects of concern

- significant difference in the implementation of control measures between Kirklareli, Tekirdag and Edirne Provinces;
- of these 3 Provinces, the risk of further outbreaks was considered highest in Tekirdag, Edirne and Kirklareli, in that order;
- application of sanitary controls on infected villages/holdings:
    - slaughter of infected animals; the practise of slaughter of sick (probably viraemic) animals into the food chain presents significant risks since it could lead to infections during the transport of animals to the abattoir, by contamination of the vehicles and lairages, and not least will add significant tonnes of infected meat into the food chain where it may lead to infection in free countries (if illegally exported);
    - Application of slaughter as a control method; current application does relatively little to reduce the risk; few animals are killed before they have contaminated the holding, and it does not involve the in contact animals that will almost all develop FMD;
    - The number slaughtered is low (circa 115 by the 26/2) in total, and as a proportion of animals at risk in affected villages (0.5% of the circa 25,000 cattle and small ruminants);
    - Only a few of these (Kirklareli) had been destroyed (and buried). The meat of the other slaughtered animals has been sold without heat processing or other virus inactivation, for human consumption. This brings a significant risk of spread to FMD free countries, since the practise results in highly contaminated meat that would be infectious to pigs (not a problem for Turkey but it could be if there were illegal meat imports to EU or other countries);
    - Sheep and goats on infected holdings are not slaughtered, which may become them acting to continue the epidemic;
    - enforcement of bio-security to prevent exit of FMD virus (on vehicles, feed, or animals or persons) at the entrances and exits to villages with confirmed cases remained poor, and this may be the reason for any secondary spread from these villages;

- Animal movement controls;
    - Although animal bazaars (markets) were closed, animals continued to be moved within Provinces with insufficient enforcement of the movement process;
    - insufficient monitoring (control) of the steps involved in the animal movements from farm to slaughterhouse (best practise in Kirklareli, least in Edirne where the animal bourse was open with some >100 animals passing through);
    - a low proportion (circa 30%) of the 350 cattle marketed at Havsa on the 4th Feb. had sales registered electronically, limiting tracing (long term action required). The market information was stored at the municipality level and in paper form, and sheep sales information could not be seen (separate book, not available).
- early warning and surveillance
    - following discovery of the outbreaks linked to Havsa market on 4th Feb, the tracing of animal movements from this market had not been undertaken or warnings issued to districts/provinces that had received animal consignments;
    - GDPC staff should have undertaken a serious investigation of the Havsa market data soon after discovery of the market as presumed point of infection on the two occasions, to identify at risk locations in Thrace and elsewhere;
    - some of the Thrace outbreaks had been detected during the visits of the vaccination teams, highlighting that not all outbreaks are rapidly reported;
    - no specific actions were taken for a enhanced surveillance of FMD in sheep and goat. The course of FMD in these animals may be sub-clinical and this may cause a hidden dispersion of the infection since sheep will only be vaccinated in a second stage. Sheep and goat may rapidly go on the prairie, before the vaccinated is completed;
    - In the forest area at the border between Turkey and Bulgaria, wild boar and deer are present and may spread FMD. Surveillance of these animals was not implemented.

- co-ordination of control between provinces;
    - poor co-ordination, lack of a system or person to ensure information exchange between Provinces to enable surveillance or control measures to be placed in relation to suspected or confirmed outbreaks.

- Vaccination -Phase 1
    - Following availability of the new trivalent A22,A1,O vaccine produced by the FMD (SAP) Institute on the 11/2, vaccination commenced rapidly (from 11th) but with insufficient vaccine and not in a coordinated manner across the Thrace region;
    - Kirklareli organised an impressive campaign, beginning in the most affected locations/districts within first week; they claimed that the application of the 70,000 doses available would be rapidly completed, leading a 80% coverage by early March (but see notes below);
        - Several districts where cases had occurred commenced vaccination at same time, within these vaccination commenced in infected villages (may be considered ""suppressive vaccination"" as this occurred within infected villages)
        - In affected districts of Luleburgaz and Babaeski (where index and associated 2nd cases occurred) 34,000 doses were applied in period 11-19th Feb;
        - In Demirkoy, next to Bulgaria, vaccination began on 21/2 but was not scheduled to finish until 10/3;
        - Data for Merkez (where 3 outbreaks occurred) was not available).

    - Tekirdag had insufficient vaccine (why? Not clear reason provided)
        - Because of lack of vaccine they elected to undertake ring vaccination in most affected location (Balabancik, Malkara), both cattle and small ruminants
        - Very limited vaccination within other affected villages
        - However during visit it was not clear why the total available vaccine had not been applied (only 22,000 of 30,000 doses used)
        - Dangerous level of under vaccination therefore existed at 26/2, as only 15% of cattle in Tekirdag had been vaccinated by this date;

    - Edirne Province had not commenced vaccination on 19th Feb, but following the meeting on that day with the mission team agreed to do so from 21/2; there was reluctance to begin

vaccination because they preferred to spend another week collecting blood samples for FMD sero-surveillance;

- The delayed vaccination in Edirne and Tekirdag by 1st March is a major concern and increases the risk associated with the most recent outbreaks in these areas which occurred in non-vaccinated populations;

- Vaccination-Phase 2 (from 1st March)
  - Major concern that vaccination will not proceed fast enough to prevent new outbreaks, leading to outbreaks over the next month or more;
  - Tekirdag and Edirne provinces indicated that they could not vaccinate their cattle and sheep populations before beginning of May 2006 without additional manpower and transport;
  - in Kirklereli Province, vaccination is scheduled to be finished about 15 March 2006 , through use of a wider range of technical staff and a higher commitment of resources and effort to achieve rapid control);
- vaccination gaps of concern are:
  - young animals (which could die or be stunted, or lead to transmission at grass or when marketed);
  - animals excluded from vaccination –hidden or where owners refuse;
  - if together the non-vaccinated population is over 15% this might be a significant gap leading to continuation of FMD transmission;
  - non-vaccinated animals entering contaminated barns may become infected several months after the area is contaminated.

- short lived immunity:
  - the A22 is a primo-vaccination and therefore immunity may not be long lived even in animals previously vaccinated with A Iran96 etc;
  - the vaccination in march may lead to decline to less than protective during the grazing season;
  - traded animals - calves, heifers, lambs are especially important as these may pass through markets;

  - booster vaccination is therefore important , and certainly in villages where FMD has occurred;
- concern over lack of post-vaccination biosecurity in affected villages:
  - infected villages that are vaccinated remain a risk mainly in period of 21 days post vaccination (see note);
  - most new cases can be expected within 7-10 days post vaccination of village was recently affected:
  - therefore controls MUST remain on these affected villages; vaccination should NOT lead to less controls at entrance and exits.

Recommendations (short term)

1. **Develop and rigidly enforce a vaccination timetable for completion of the FIRST round emergency vaccination in Thrace area**
   - Target: aim at completion of vaccination in one month or less:
     - proposed finishing date: March 31st 2006
     - all cattle and small ruminants to be included, ensuring gaps are not present by inclusion of young (from a few days of age) and pregnant animals in the program
   - Organisation
     - Human resource indications: guidelines on vaccination effort were developed after discussions in Edirne, Tekirdag and Kirklareli Provinces:
       Number of teams (2 persons) to do the job:
       1. Prov. Kirklereli may manage within their resources;

2. Prov. Edirne may need at least 30 teams[2] ,
3. Prov. Tekirdag may need at least 20 teams;

- To increase vaccination rate per day, we recommend to reduce lost time, for example to arrange that vaccinators do not lose time by driving to and from the central vaccine store (drivers could collect vaccine 4-6 am to be ready for vaccination teams to begin at 7 am);
- Create incentives for the vaccination teams to undertake the extra work required (extra payment for reaching a target of vaccinated animals per day, overtime payments etc);
- **Transport of teams to the villages;**
  1. need for vehicles was indicated in Edirne (15 were requested) ;

2. **Central monitoring of the vaccination progress; PDs to send a daily update on the progress by District/village to GDPC;**
   - We recommend that GDPC appoint a coordinator to supervise progress of the vaccination campaign in Thrace;
   - **We ask that GDPC report weekly progress (giving numbers and proportion (% total) vaccinated by district and Province to EC/FAO/OIE**

3. **Plan for a SECOND round of vaccination to boost primary immunity**;
   - We consider this is ESSENTIAL for villages where confirmed FMDV infection (including serological positives), because infection will be present in contaminated holdings;
   - To occur 4-8 weeks after first vaccination;
   - Consider to include other villages on risk basis.

4. **Re-enforcement of bio-security in affected villages** :
   a. We strongly recommend that vaccination is not followed by relaxation; bio-security measures MUST remain in place **on villages where cases had occurred,** after vaccination for at least a further 21 days[3];
   b. In particular, controls at entrance and exits must remain in place as there will be high risk that contamination of vehicles, people, feedstuff etc can take infection out of an affected holding into other locations/villages.

5. **Improve information given to farmers and the other people involved**
   - to explain why A22 virus situation is different from usual years;
   - to increase their acceptance of control measures;
   - to reduce time taken by teams to explain the measures;
   - to reduce vaccination gaps such as pregnant animals;
   - to improve biosecurity on each holding after vaccination (since cases may still occur for another 2 weeks , because animals may be infected before or up to 7-14 days post-vaccination)

6. **Other control measures** :
   1. **Slaughter of sick animals**:
      - To be effective in controlling risk, ruminants on the entire affected holding should be destroyed without delay;
      - If this recommendation is not followed, then other measures must be applied more effectively –faster ring vaccination, much more enforcement of entry and exit disinfections etc;
      - If GDPC do not ban the slaughter of FMD affected animals, then extra biosecurity measures must be taken and strictly enforced to reduce the risk from highly infected vehicles, lairages, slaughterhouse contamination and workers at the slaughter plant[4].

---

[2] After discussion with Tekirdag and Kirklareli offices, the average vaccination rate/day for a TEAM of two persons was estimated at 350 animals per day.

[3] **Assumes** FMD cases will occur in period up to circa 21 days after vaccination (animals may be infected up to 7 days post vaccination, with an incubation of 14 days).

[4] The current practice of movement of sick animals to slaughter houses carries significant risks to spread infection; the slaughter of sick animals is NOT in compliance with EC Directive and indirectly, increases risk to other countries (where pigs can be infected via waste meat)

2. Strict control (preferably no movement) of animals between holdings during the period until emergency vaccination period has been completed [5].
3. No movements off holdings except DIRECT to slaughter until population fully vaccinated [6].
4. closing of the animal bourses at least during the vaccination period until first round of cattle/sheep vaccination is complete, even if there was no outbreak during a month.

7. **Transport of animals is only allowed direct to the slaughterhouse**, under strict control
   1. reducing all opportunities for animals to be mixed with animals that are not slaughtered/ returned to farms;
   2. movement permissions to be strictly time limited, e.g 48-72 hrs;
   3. immediate confirmation of the slaughtering, with in each Province a responsible officer tasked with each day confirming that all animals sent for slaughter are accounted for;
   4. control and Improve the disinfection of cars in the slaughterhouse.

8. **Monitor for the response and duration of A22 protection:**

   To better identify the duration of expected protection over next 3-8 months, which should inform when booster vaccination is necessary, we recommend:
   1. In addition to the routine sero-monitoring program designed by SAP Institute with EUFMD assistance, that a sampling study is conducted in field vaccinated animals;
   2. we suggest as a basis for discussion this is conducted in each of four villages,
      - located > 10 km from a confirmed outbreak of FMD;
      - two villages should be selected that received SAP Institute vaccine ;
      - two villages selected that received EC vaccine;
      - in each, 20 ear-tagged animals (10 young animals, 10 > 1 year) are bled at 30, 60 and 90 days post vaccination.
   3. In total about 240 blood samples tested for antibody titre to type A22 antigens (by SAP Institute and/an EC reference laboratory).

Recommendations (long term)

- ensure that there is a readily available budget (emergency fund for FMD) to immediately bring adequate human and other resources to affected regions of the country to apply emergency vaccination (and other measures). At present, at least such a fund should exist for Thrace region because of the intention that this region becomes recognised as FMD free.
- Contingency plans should address the need for additional manpower to vaccinate in emergency situations.
  - Options to achieve this need to be evaluated for feasibility and cost
  - Options include
    - establishing a roster of private veterinarians/technicians (e.g. AI inseminators) to act as vaccinators (pre-agreed terms and conditions and payments scale).

- Improvement of the I&R system in Turkey. All animal movements should be registered in the central system within 3-5 days, also animals that move within a province.
- Control of livestock traders/hustlers – we support the recommendations made to us by Provincial Directors in Thrace that special measures be made to control their activities. They suggested these include licensing /compulsory registration, associated with receiving training course.
- Review risk management for the future (2007-) kurban/bayram festivals:
  - Feasibility of options must be evaluated
  - Critical control points to be identified
  - May need to include:
    - Feasible length of movement bans over the Bosporus bridges before, during and after the festivals;

[5] We recommend the principles and periods set in the EC Directive are applied; based on the occurrence of the last case and the application of surveillance measures.
[6] As 2.

- Feasibility of direct to slaughter movement controls;
- Importance of reviewing national disease control situation 1-4 weeks; before the festival (with view to taking increased control measures) ;
- Timing of vaccination campaigns in relation to the festival.

Notes

MAPS -Annex A
FMD disease data: Annex B

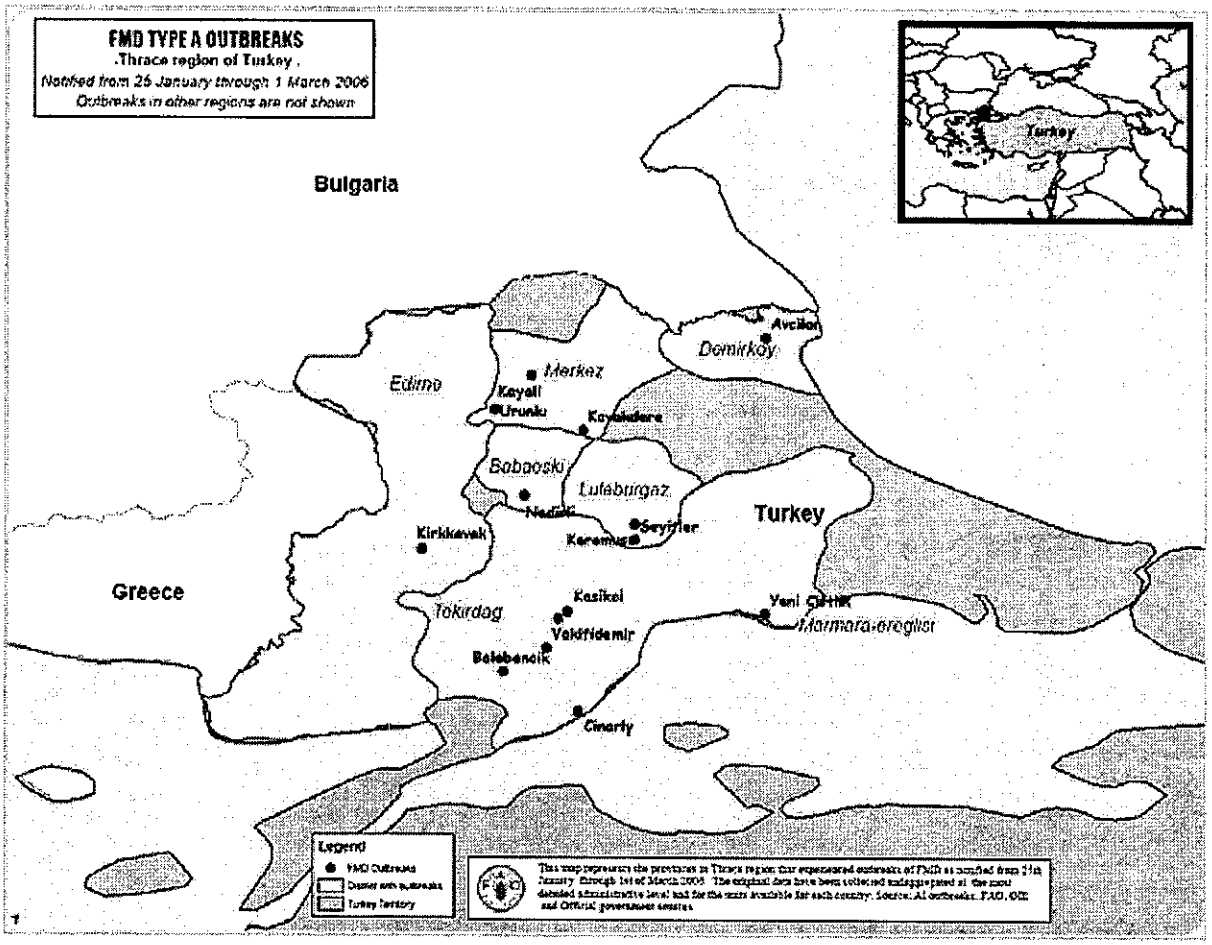
Vaccination rates

After discussion with Tekirdag and Kirklareli officers, the average vaccination rate/day for a TEAM of two persons was estimated at 350 animals per day.

Mission itinerary

16th Febr	Arrival in Ankara
17th Febr	Ministry in Ankara
18th Febr	Travalling to Edirne, visit Provincial Vet. Office
19th Febr	Inspection of the Greece Border, meeting with 3 prov.vet.managers
20th Febr	Borsa in Edirne, Havsa Market, back to Istanbul
21st Febr	Havsa Market, Provincial Vet. Office in Edirne
22th Febr	to Kirklereli, Provincial Vet. Office, visit to 2 outbreaks in Karamusul and Nadirli.
23th Febr	visit to the Demirkoy district
24th Febr	Prov.Vet. Office Tekirdag, visit to Malkara district, Balabancik and Vakifedemir
25th Febr	Prov. Vet. Office Tekirdag, to Istanbul
26th-28th Febr	No special program
1ste March	To Ankara, report
2nd March	Ankara, report to Ministry
3rd March	Departure

Annex A


FMD TYPE A OUTBREAKS
-Thrace region of Turkey -
Notified from 25 January through 1 March 2006
Outbreaks in other regions are not shown
Bulgaria
Turkey
Edirne
Merkez
Kayali
Uzunkopru
Kavakdere
Avcilar
Demirkoy
Babaeski
Lufaburgaz
Nadiki
Seyitler
Keremus
Kirklareli
Greece
Turkey
Tekirdag
Kesikoi
Yeni Cerkik
Marmara ereglisi
Velitdemir
Belebencik
Cinarly
Legend
FMD Outbreaks
Turkey Territory

Annex B

ID	Province	district	municipality	species	farmers	# anim affected	age affected animals	# anim @risk	died	destroyed	slaughtered	infection date	clinical symptoms date	clinical symptoms	notification date	sampling date	samples send to SAP
K1	Kirklareli	Babaeski	Nadirli	Cattle	S. Akcan	4	1-10yr	0	0	4	0	21/01/2006	25/01/2006	salivation; high fever; no appetite	25/01/2006	25/01/2006	25/01/2006
					others	0		752	0	0	0						
					TOTAL	4		752	0	4	0						
				sheep+goats		0		550	0	0	0						
K2	Kirklareli	Lüleburgaz	Karamusul	Cattle	K. Karakas	3	>1 year	9	0	NA	0	24/01/2006	26/01/2006	mouth, foot, tongue lesions	29/01/2006	30/01/2006	31/01/2006
					A. Pehlivan	1		39	0	NA	0				03/02/2006		
					C. Pehlivan	1		23	0	NA	0				02/02/2006		
					S. Deresh	1		16	0	NA	0				02/02/2006		
					M. Deresh	1		12	0	NA	0				04/02/2006		
					F. Gunduz	1		4	0	NA	0				04/02/2006		
					S. Asik	1		17	0	NA	0				06/02/2006		
					others	0		547	0	NA	0						
					TOTAL	9		667	0	21	0						
				sheep		0		752	0	0	0						
K3	Kirklareli	Lüleburgaz	Syeriler	Cattle	S. Gezen	14	young	24	0	20	0	28/01/2006	01/02/2006	ulcers mouth & foot; pour general condition	02/02/2006	03/02/2006	03/02/2006
					others	0		66	0	0	0						
					TOTAL	14		90	0	20	0						
				sheep		0		290	0	0	0						
K4	Kirklareli	Babaeski	Mandira	Cattle	O. Kuzu	5		2306	0	5	0	31/01/2006	03/02/2006	salivation; high fever; ulcers mouth & foot; pour general condition	04/02/2006	04/02/2006	06/02/2006
					others	0		0	0	0	0						
					TOTAL	5		2306	0	5	0						
				sheep		0		2260	0	0	0						
K5	Kirklareli	Merkez	Kavakdere	Cattle	E. Ozer	12		5	0	17	0	03/02/2006	05/02/2006	ulcers in mouth & foot	06/02/2006	09/02/2006	09/02/2006
					others	0		516	0	0	0						
					TOTAL	12		521	0	17	0						
				sheep		0		1025	0	0	0						
K6	Kirklareli	Merkez	Ürünlü	cattle	A. Dorru	3		820	0	3	0	04/02/2006	06/02/2006	ulcers in mouth & foot	11/02/2006	11/02/2006	13/02/2006
					others	0		0	0	0	0						
					TOTAL	3		820	0	3	0						
				sheep		0		400	0	0	0						
K7	Kirklareli	Merkez	Kayali	cattle	D. Koca	11		0	0	11	0	04/02/2006	06/02/2006	ulcers mouth & foot; pour general condition	11/02/2006	11/02/2006	13/02/2006
					T. Koca	4		0	0	4	0						
					S. Gezen	10		1	0	10	0						
					B. Gezen	3		47	0	3	0						
					I. Ulusay	1		4	0	1	0						
					others	0		2066	0	0	0						
					TOTAL	35		2120	0	35	0						
				sheep		0		5070	0	0	0						
				goats		0		1265	0	0	0						
K8	Kirklareli	Demirköy	Avsilar	cattle	K. Erdem	4		40	0	4	0		05/02/2006	ulcers mouth & foot; pour general condition	09/02/2006	09/02/2006	09/02/2006
					others	0		0	0	0	0						
					TOTAL	0		0	0	0	0						
				sheep		0		0	0	0	0						

ID	sampling date	samples send to SAP	samples received	confirmation date	source	dispersion	control measures	vaccination start	vaccination end	vaccinated animals	remarks
K1	25/01/2006	25/01/2006	02/02/2006	03/02/2006	4 animal from Havsa transported on 21 Jan by mr Remzi. Health certificate was produces at Havsa market. These animals become sick on the farm	none since control measures (are explained in the remarks)	25/01/2006	12-Feb	12-Feb	731	first outbreak in Kirklareli province
K2	30/01/2006	31/01/2006	03/02/2006	07/02/2006	3 animals were brought on the farm from Nadirli by same transporter (mr Remzi) as animal from Havsa 21/1. These animals get become on the farm	dispercion within village thourgh drinking well is possibly responsible for infection of other farms; none since control measures	30/01/2006	12-Feb	12-Feb	552	
K3	03/02/2006	03/02/2006	06/02/2006	06/02/2006	10 breeding animals are bought at Havsa market (25/01); own transport; 1 animal originates from Kirklareli province, 9 animals from Edirne province.	none since control measures	03/02/2006	11-Feb	11-Feb	67	
K4	04/02/2006	06/02/2006		13/02/2006	3 animals were brought on the farm (31/1) by same transporter (mr Remzi) as animal from Havsa 21/1	none since control measures	04/02/2006	19-Feb	19-Feb	2020	awaiting for lab results for Ali Bolgen (1 sick animal)
K5	09/02/2006	09/02/2006	09/02/2009	13/02/2006	Ali Bolgen (see comments)	none since control measures	09/02/2006	12-Feb	12-Feb	421	
K6	11/02/2006	13/02/2006	14/02/2006	14/02/2006	Ali Bolgen (see comments)	none since control measures	11/02/2006	13-Feb	13-Feb	752	vet is called but does not see the clinical signs of FMD
K7	11/02/2006	13/02/2006		15/02/2006	1 animal bought from Ali Bolgen in Havsa market, Bolgen brought the animal to the village;	spread within the village through drinking well; no more dispersion since implementation of control measures	11/02/2006			1925	1 animal sick on 6 feb and treated by inseminator. 8 animals sick on 11 feb First 17 affected animals are from the same establishment but died at different moments; afterwards (15.02) 18 animals at 4 different establisments showed clinical symptoms and were confirmed for FMD
K8	09/02/2006	09/02/2006		13/02/2006	see comment	none since control measures	09/02/2006	21-Feb	10-Mar	485 on 24/2	very isolated in forest. Still next farm is at 150m

T1	Tekirdag	Malkara		Balabaneik	Cattle	1	6	7y (first)	14	0	0	6	??	01/02/2006	salivation; ulcers in	03/02/2006
						2	2	2.5y (first)	6	0	0	2	??	01/02/2006	mouth;	03/02/2006
						3	3	2y (first)	15	0	0	3	??	01/02/2006		03/02/2006
						4	1	2.5y (first)	5	0	0	1	??	??	salivation	08/02/2006
						5	2	5y; 1.5y	12	0	0	2	??	??	salivation	08/02/2006
						6	1	5y	8	0	0	0	??	??	salivation	08/02/2006
						7	1		4	0	0	0	??	??	salivation	08/02/2006
						8	2	young	10	0	0	0	??	11/02/2006	salivation	11/02/2006
						9	3	young	25					11/02/2006	salivation	11/02/2006
						others	0		3250							
						TOTAL	21		3354	0	0	14				
					sheep				1275							
T2	Tekirdag	Malkara		Vakifdemir	Cattle	1. Anar	9	young	27	0	0	0	04/02/2006	08/02/2006	salivation, fever,	10/02/2006
						2. Kayalk	2		5	0	0	0		08/02/2006	ulcers	
						others	0		600	0	0	0				
						TOTAL	10		632	0	0	0				
					sheep				327	0	0	0				
T3	Tekirdag	Marmaraereglisi		Y. Ciftlik	Cattle	1. Anar	3	1y	19	0	0	0	06/02/2006	11/02/2006	fever; loss appetite,	12/02/2006
						others			750						salivation, ulcers	
						TOTAL			750						on foot and mouth	
					sheep				730							

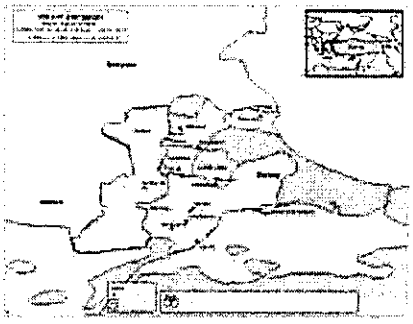
	03/02/2006	03/02/2006		08/02/2006	The man of farm 1 bought 3 animals at Havsa market on 21/01 and these were brought directly on the farm. First animal that gets sick on the farm is not bought at Havsa market. The 3 animals from Havsa get sick afterwards. There is one more animal from Havsa at the same transport this goes to another farm which does not get infected. Identity of transporter is unknown. Apparenly the second farm is the first case: He has 2 pregnant cows. 1 week after they give birth they get sick (1 feb). His animals do not mix with the others so the dispersion to the other farms is unclear. No idea how the infection came on this farm (farmer does not buy animals; no hustlers; only contact with other farmers in the coffeeshop)	common drinking well; no more dispersion after implementation of control measures	08/02/2006	11-Feb	11-Feb 2954 cattle 1178 sheep	
	03/02/2006	03/02/2006		08/02/2006							
	03/02/2006	03/02/2006		10/02/2006							
	not	not	not	not							
T1	not	not	not	not							
	not	not	not	not							affected animals in 6 and 7 were not slaughtered since they were light cases. Affected animals were not vaccinated.
	not	not	not	not							
	not	not	not	not							affected animals on 8 and 9 were vaccinated
	not	not	not	not							
	10/02/2006	10/02/2006	10/02/2006	10/02/2006	15 animals are bought by Anar at Havsa market on 4/02. 6 get sick, as 2 more animals. Orhan Gelan was transporter from Tekkidag. Anar sold 2 animals to the neighbour, they also got sick	none beside these two farms	10/02/2006	11-Feb	11-Feb 544 cow	All diseased animals got vaccinated
	not	not	not	not					228 sheep	
T2										
	13/02/2006	14/02/2006	??	??	Farmer has 6 animals and buys 11 from Havsa market on 4 feb. He devides the animals over 3 barns: 4 animals to barn A, 3 to barn B and 4 are put together with 6 own animals in barn C. On 11 Feb the farmer calls the vet since 1 animal is sick in barn B afterwards the 2 other get sick. All 3 recover after treatment. Only the 6 own animals are vaccinated. The farmer transported the animals on a rented truck from havsa. No other animals were on the truck.	no	12/02/2006	17-Feb	19-Feb 670 cattle 600 sheep	The outbreak was limited to 1 farm
T3										

PROGRESS OF THE EMERGENCY CATTLE AND SMALL RUMINANT VACCINATION CAMPAIGN IN THRACE REGION OF TURKEY
(February to April 2006)

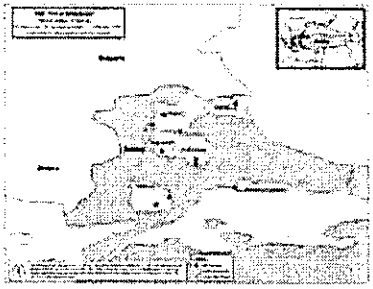
Report compiled by EUFMD Secretariat, FAO Rome
Data provided by the GDPC, Government of Turkey

Progress of the emergency cattle and small ruminant vaccination campaign in Thrace region of Turkey (February to April 2006)

Report compiled by EUFMD Secretariat, FAO Rome
Data provided by the GDPC, Government of Turkey



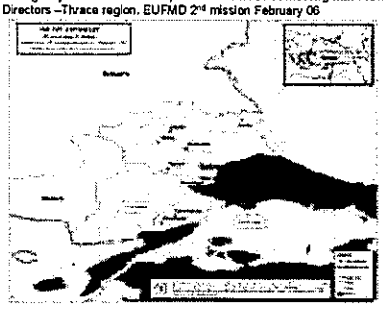
Situation at start of 2nd EUFMD mission – Thrace region

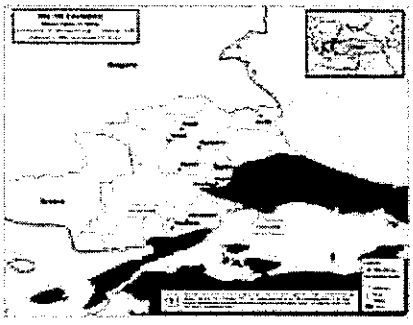


Mission 2; first phase of emergency vaccination

- EUFMD mission - Meeting with Provincial Directorates, Edirne 15th Feb
- On the use of SAP Institute vaccine delivered for EV
- Advice:
  - Apply EV in THREE Phases, with first Phase being to
  - complete a north-south zone that includes
  - all 1) affected villages and districts,
  - 2) those immediately neighbouring on the west side
  - 3) those in Tekirdag in proximity to affected locations in Kirklareli.
  - This Phase to be completed within one week (by 26th Feb)

Emergency vaccination – area priorities identified at meeting with Provincial Directors –Thrace region. EUFMD 2nd mission February 06





Second phase emergency vaccination

- **The second Phase would involve EV supplied by EC;**
- **Priorities:**
  - Complete Phase 1
  - to vaccinate the remaining parts of Edirne, Kirklareli and Tekirdag Provinces as a priority, within one month;
  - Vaccination in Istanbul and European parts of Canakkale should also proceed but may be seen as less high priority
- **Species: vaccinate small ruminants also**
- **Ages: Vaccination of young animals could reduce the gaps in vaccination and protect vulnerable ages, since maternal immunity to A22 should not feature.**
  - The vaccination could be given to calves from a day of age (to reduce deaths in very young animals from FMD) although MERIAL have suggested 2 months of age for the first vaccination on the basis of their own data

Supporting emergency vaccination

- Recognising that AI control is also a priority for Government staff
- and that vaccination needs to be controlled to ensure all relevant animals are vaccinated in correct manner
- 2nd mission has identified need to support GDPC to rapidly implement vaccination in priority areas
- Discussion on how: vaccinators and transport main constraints

Third phase

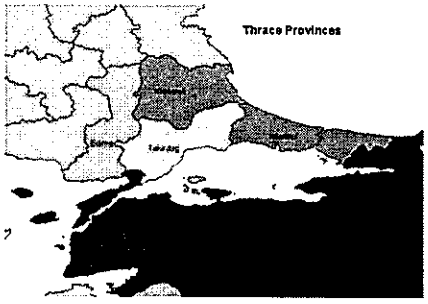
- Reduce risk of waning immunity
- Booster immunisations needed
  - Since the A22 is a primo-vaccination
  - Since high immunity required to provide protection against the new strain
  - Since infection will remain in contaminated holdings
  - Thereby reduce risk at turn out of animals in May
  - Priorities could be made - districts with confirmed infection

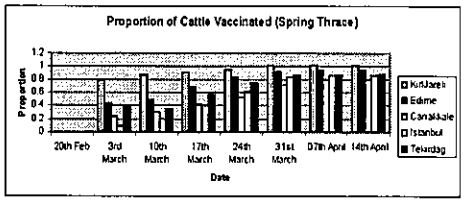
Progress of emergency campaign – Cattle Vaccination Thrace

Objective (as agreed with GDPC at final meeting of 2nd EUFMD mission) : complete vaccination of large and small ruminants in 5 provinces of Thrace by end of March 2006
Following slides are based on data provided by GDPC on a weekly basis in March and April to FAO

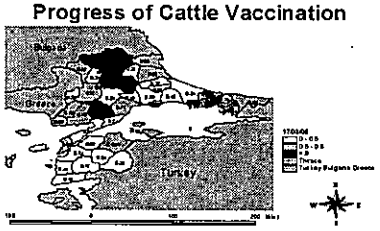
Other controls:

-
  - Continue policy of slaughter without delay of clinical cases (risk also of in contact)
  - Movements under strict control
  - Markets to remain closed (duration should be considered according to situation in whole region)
  - Post-outbreak surveillance important to prove level of immunity (and provide assurance that infected locations are known).

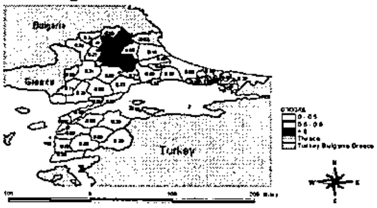




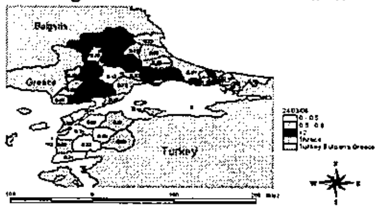
Progress of Cattle Vaccination



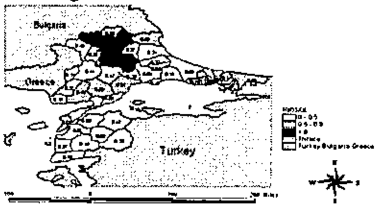
Progress of Cattle Vaccination



Progress of Cattle Vaccination



Progress of Cattle Vaccination



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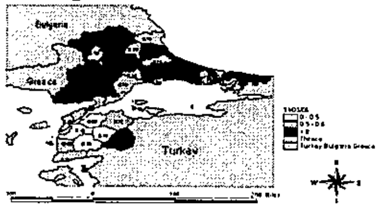

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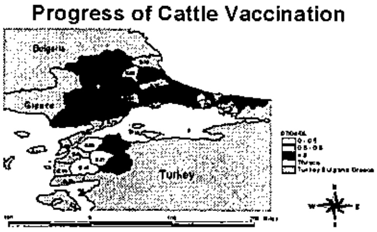

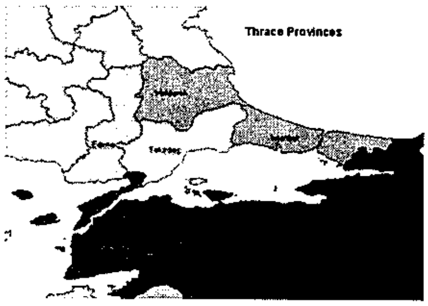

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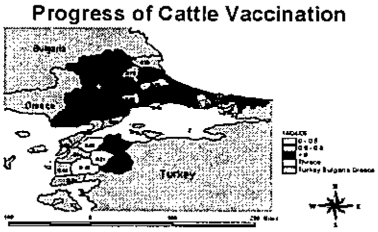
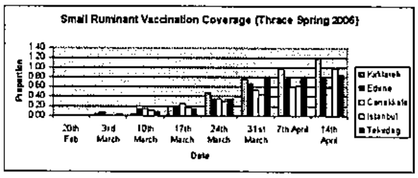
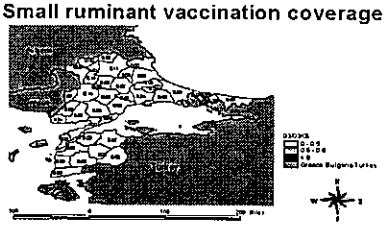


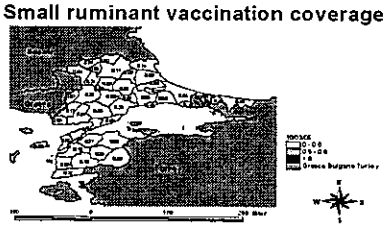


Small Ruminant Vaccination
(Spring Thrace)

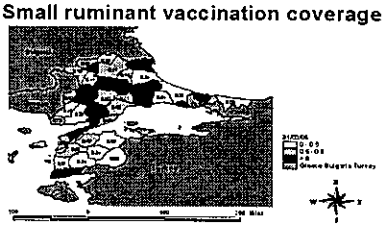
Small ruminant vaccination coverage



Small ruminant vaccination coverage



Small ruminant vaccination coverage



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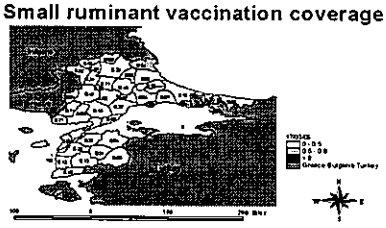

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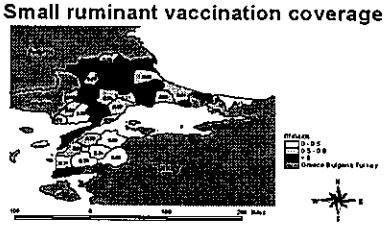

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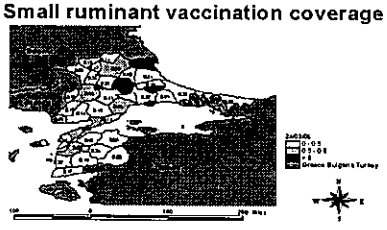

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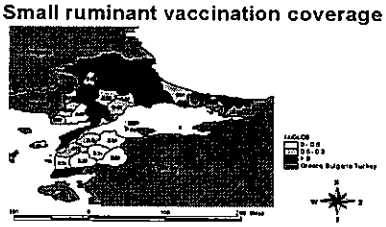


Appendix 7

MEETINGS OF THE ADVISORY GROUP ON SERO-SURVEILLANCE POST-OUTBREAK FOR THRACE REGION

Date: 14th June 2006
Place: Armada Hotel, Istanbul
Present: Mark Bronsvoort (University of Edinburgh, UK)
Keith Sumption (FAO, Rome)
Mustafa Tufan (GDPC, Ankara, Turkey)
Naci Bulut (SAP Institute, Ankara, Turkey)
Nick Honhold (FAO, Ankara, Turkey)
Ian Handel (University of Edinburgh, UK)

Purpose: Review of sero-surveillance for FMDV in Thrace Region of Turkey with the objective of identifying key information gaps and designing new sero-surveillance in view of recent outbreaks.

Summary

- 16 outbreaks of A22 like FMDV were reported between January and March 2006 and 1 outbreak of A22 like FMDV reported 14th June 2006
- Emergency vaccination with A22 carried out in February to April 2006
- **Booster vaccination should be carried out in Thrace to include A22**
- **Sero-surveillance for 2006 was conducted in February and March (designed in Dec 2005) - this should still be analysed for vaccine coverage and for evidence of viral circulation pre-outbreak**
- **The next round of sero-surveillance for Thrace will aim to identify evidence of virus spread from outbreak villages to neighbouring areas**

Background

Turkey has been carried out biannual vaccination in the Thrace region with the plan to control and eradicate FMDV. As part of the documentation needed for future declaration of disease free status sero-surveillance activities have been conducted annually to:

- identify problems in vaccination coverage and delivery
- support training requirements for field veterinarians
- identify areas of sub-clinical disease circulation or reporting failures.

In December 2005 a meeting was held and the sero-surveillance for 2006 designed with the following objectives:

1. Substantiate "freedom from FMD with vaccination" (absence of serological evidence for active FMD virus circulation) in Thrace.
2. Target additional sero-surveillance activity in Istanbul Province to assess the risk of incursion in Spring/Autumn.
3. Ensure prompt follow-up investigations of all NSP-seropositive cattle ($\leq$ 60 days after initial sampling), which should include both forward and backward "tracing" to one degree to assess spread in other at-risk villages.
4. Demonstrate field efficacy of vaccine

This plan was carried out by NB through the Provincial Directorate, Thrace Region.

However, around the time of the sero-surveillance exercise in spring 2006 (approx. 19th Feb - 6th March) a new A22 serotype was isolated in Thrace. Between 25th January and 1st March 14 outbreaks were reported, 8 in Kirklareli, 3 in Tekirdag and 3 in Edirne. Emergency vaccination was carried out using a single dose A22 vaccine between 11th February and 14th April. Overall coverage for this vaccination campaign was reported as 92%.

On the 14th June 2006, coincident with the planning meeting for sero-surveillance, a new case of A22 FMDV was confirmed in Çanakkale. Two members of the group (NH and NB) went on a mission to the Province to investigate this outbreak.

Discussion points
In view of the unfolding situation a number of possible objectives for a new serological study and/or use of the Spring sero-surveillance were identified and discussed.

- Could the existing sero-surveillance be used to estimate vaccine coverage and/or efficacy for A22 and this then guide future follow-up vaccination for A22 FMDV?
- Could the sero-surveillance be used to estimate the prevalence of sub-clinical infections/evidence of circulation of A22 in the region?
- Use the Spring sero-surveillance data to estimate vaccine coverage/efficacy and evidence for virus circulation other than for A22

1. Initial discussion of the new outbreak (14th June 2006) suggest that 6/128 cattle were affected and that the vaccine coverage in the affected village had been 36/128 cattle and 200/370 sheep/goats? However the census data for this village was 1000 cattle and 800 sheep and 450 goats. Coverage at the district was reported at 88% for cattle and 104% for sheep and goats.

2. This suggests that there has been very poor vaccine coverage in the area of the outbreak or that there is error in the figures. In addition, discussions on the estimates of coverage revealed that some areas had >100% coverage reflecting that the estimate of coverage was based on number of vaccine doses used with the census estimate of herd numbers as the denominator. It is possible that census data is inaccurate and hence quoted coverage estimates may be unreliable.

3. **Output: There is a need to improve the registration and identification of livestock in Thrace to reduce the errors in these summary data.**

4. Emergency vaccination for A22 using a single dose was carried out between March and April 2006. At the time of the meeting 14th June 2006, with a new outbreak in Thrace, concern was expressed that there will be declining protective immunity (although previous vaccination with A Iran 96 should mean that there is improved protection than that in a naïve population following a single vaccination). Therefore an increasing proportion of the livestock population of Thrace will be susceptible to new introductions of FMDV over the summer.

5. The group discussed analysing the emergency vaccination data to identify areas of poor effective coverage, taking into consideration original coverage, time since vaccination and distance from outbreaks; combining this into a risk model to identify priority vaccination areas. However the group's view was that the data quality would not support such a complex analysis.

6. The group strongly suggest that village and farm locations are geo-referenced in future to allow improved risk mapping and data management and display.

7. **Output: In view of the current outbreak and increasing population susceptibility the group advise follow-up vaccination (and primary vaccination for unvaccinated livestock) with A22 strain. The group felt that the village level vaccination data should be analysed to understand potential variation in coverage.**

8. We decided that the Spring sero-surveillance data was not appropriate to assess the efficacy of the emergency vaccination since it pre-dated the vaccination campaign (samples from before 13th March) and was not appropriate to investigate virus circulation since it was too soon after the outbreaks in January-March.

9. **Output: The Spring sero-surveillance data should still be analysed for specific regions in particular areas such as Istanbul where no outbreaks were declared. This would provide support that active surveillance for clinical disease had been effective.**

10. **Output: In view of the current outbreak, sero-surveillance for freedom of disease would be irrelevant at this moment. However, the group feels that targeted serology studies should be carried out in a surveillance zone (5-10km) around a sample of the 14 outbreaks to identify spread from the outbreak villages to neighbouring villages. The survey will sample from the majority of villages, within a designated radius, to detect infection within villages that exceeds a**

relatively high threshold (e.g. 10%) on the basis that the aim is to locate villages where there has been significant exposure/virus spread.

11. The group accepts that since movement controls have been lifted in these areas some exposed animals may have been moved to other villages and regions.

Appendix 8A

Report of the First Scientific Meeting on FMD virus circulation in the region
Teheran, Islamic Republic of Iran, June 11-12th 2006

Summary
The region has been very hard hit by rapid invasion and impact of an A22 like virus (A Iran 05) in 2005-6 which continues to circulate in Turkey and I.R of Iran, and which has been detected in Pakistan and Saudi Arabia in 2006. Syria and Iraq have not reported detection of the A22 virus to date but remain at high risk. Type O remains endemic, but the risk of Asia-1 appears diminished with the last reported occurrence in Iran in August 2005. The dynamic situation requires continuous monitoring, not least because first detection of new strains in the centre of countries rather than border, and because of rapid animal trade movements, and because other antigenic variants type A variants were observed in 2005 and may continue to persist in the region and give rise to later re-emergence. Further, the type A Egypt 2006 has the potential for invasion of additional countries in the Middle East.

The meeting considered how future regional epidemics could be prevented, and developed recommendations relating to information exchange, virus isolate exchange to enable vaccine producers to respond, and the optimisation and improved monitoring of vaccination programs.

Conclusions on recent FMD control situation and virus circulation in the region of Turkey, I.R of Iran, Syria and Iraq;

1. Lack of information exchange between countries and to the international organisations has contributed to the scale of the type A epidemic experienced in the region in 2005-6.
2. The lack of immediate vaccine against the A22-like virus contributed to the scale of the outbreaks.
3. The available A22 antigen in international vaccine banks, or held by individual countries, could not be mobilised in timely manner because of delayed reporting of the identification of the problem of the A05/A22 like virus;
4. The A22 like virus (A Iran 05) FMDV genotype has proven to be highly invasive and has caused severe disease in all ages of cattle, although this appears reduced where high levels of previous type A immunity exists;
5. The infection continues to circulate in mid 2006 in Turkey and Iran and further extension of infection to other countries or zones is likely to occur;
6. The circulation of other A types in the region is likely to continue in 2006 given the detection of A Iran 96, A Iran 87 and A Iran 99 genetic types circulating in apparently restricted locations in Turkey and/or Iran in 2005;
7. The epidemiological circumstances that enable virus persistence of the various type A virus are unclear and therefore specific attention should be continuously applied to type A outbreaks and epidemiology;
8. The location and risk from other exotic viruses, including type A Egypt 2006 should be kept under review by each country;
9. The Asia-1 situation appears favourable in Iran and the region at present, but the situation in the wider region, including Pakistan, central and south Asia be kept under review and contingency plans; developed before decision to remove Asia-1 from vaccination programs is taken;
10. There is a need for regular regional meetings to assist risk assessment and selection of vaccination and other preventive measures based on similar or harmonised standards for virus typing and selection and monitoring of vaccination programs.

Summary of recent A22 like virus (A Iran 05) epidemiology
Outbreaks with a type A virus in Khouzestan (south-west Iran) were reported in August 2005, which subsequently spread in northwards to include east and west Azerbaijan provinces then to central Iran in autumn and winter 2005, with severe impact. Virus typing at the Razi Institute detected a virus a significant antigenic difference to A Iran 87 and the antigenic type was termed A 05; a homologous vaccine was produced, first for use in ring vaccination and later in a tetravalent (2A/o/Asia-1) formulation. In late November 2005 outbreaks with this type occurred in south-west Turkey, but back tracing suggests entry occurred in Igdir Province at an earlier point. Subsequent spread, assisted by winter conditions and animal movements for the annual kurban festival, involved up to 56 Provinces with high economic impact, from Thrace on the border with

Greece/Bulgaria, to Aegean coast, central and eastern Turkey. Since vaccination was applied in late February 2006, outbreak numbers and locations have reduced, down to 70 outbreaks in May 2006 in 28 Provinces. In both Iran and Turkey, the extension of the new type A over a wide area will have resulted in high number of potential carrier animals and has apparently succeeded to replace the previous type A genotype in much of the region.

Summary of experience in A 22/A Iran 05 control by vaccination:
Each of the four countries currently utilises a different A22 component in their programs. Turkey has applied emergency vaccination using A22 Mahmatli and A22 Iraq (EC supplied vaccine) with good success in Thrace region and Anatolia with no evidence of lack of protection against challenge when used in the face of infected populations.
Iran has applied a homologous A05 vaccine in ring vaccination and more recently in routine use. The A87 vaccine appears to cross-protect in the field. This potentially important finding requires to be confirmed through potency test A87 versus A05 challenge.
Iraq has routinely applied A22 vaccine for many years, and has not reported A22 problems in 2005-6.
Syria routinely applies A Iran 96 vaccine, and appears at present to have escaped invasion of A22 type. From experience in Turkey it is clear that the SAP Institute A Iran 96 vaccination did not protect against the invading type A strain.

Summary of recommendations of the meeting
- procedures to increase the sensitivity of detecting new subtypes and the subsequent exchange of essential information to assist risk assessment and identification of vaccine based preventive measures. A task force was proposed to develop the procedures in full compliance with the international requirements of OIE and the specific needs of the region
- to continue regular technical meetings to improve risk assessment and harmonisation of sub typing and the monitoring of programs.

Meeting report

Introduction
The meeting was hosted by the I.R of Iran and organised by FAO under the *Central Asia FMD Surveillance Project Phase 1*, a component of the project MTF/INT/003/EEC which is supported by European Commission.

Participation in the meeting was made by FMD laboratory experts and disease combat specialists from the veterinary services of I.R of Iran, Turkey, Iraq and Syria.
The meeting was opened by Dr Hassani, Head of the Iranian Veterinary Organisation (IVO), and by Dr Mubashar Riaz Sheik, FAO/WHO representative in I R of Iran.

Virus circulation in the wider region
The meeting first considered the wider epidemiological events in central and west Asia, receiving an update provided by the FAO WRL for FMDF at Pirbright (presented by Dr Valarcher). The most significant event in the region in the few years has been the rapid and devastating spread of a A22-like FMD strain in Iran and Turkey in the period, and which has also been isolated in 2006 from Saudi Arabia and Pakistan. The spread into Egypt of an unrelated type A of African origin is also of major significance, since this type is not covered by vaccines in routine use in the region and further spread in the near east is possible. He also highlighted the rapid eastwards extension of type Asia-1 into previously untouched parts of China, Russian Federation and Vietnam; the rapid movements of FMDV into new areas highlight the need for early warning of disease events.

Country situation -- FMD circulation and selection and design of vaccination programs
Country presentations were then made of the situation in Iraq and in Syria.Type A22 like viruses have not been so far recognised in 2005 or 2006 in Iraq, but for various reasons the A22 component had been retained in the vaccination program, with current use of a trivalent A22/O/Asia-1 oil adjuvanted vaccine (Raksha vaccine, Indian Immunological) (IIL)) applied with a programmed vaccination in cattle every 9 months..
In Syria, A22 like viruses have also not been recently observed, and a trivalent A Iran96/O /Asia-1 Shamir vaccine sourced from MERIAL applied in all cattle (twice a year) and sheep (once a year-). Vaccine potency is tested by serology in groups of cattle (alternative potency test) with serology at WRL-Pirbright. Sero-monitoring of the program is practised, focussing on border populations, and evidence of circulating FMDV has been found in 2005 through NSP ELISA.

The situation report of Turkey and a paper on development and testing of the A22 mahmatli vaccine were given by Dr Naci Bulut, SAP Institute Detection of the A22-like virus was made in December 2005, following outbreaks in south-east Turkey in late November. Back tracing indicated that the index case may have been in Igir Province, which border Iran and Azerbaijan. Genetic analysis and vaccine cross-matching indicated that a previously used A22 mahmatli vaccine should provide good protection, and therefore A22 production was initiated with antigen formulated and distributed (as trivalent vaccine) in mid February and used in the emergency response. However as a result of the harsh winter conditions and the animal movements during the kurban festival, unprecedented spread of the A22 virus occurred between November and February, with a very high level of outbreaks per month recorded in January and February. Since emergency vaccination of the A22 vaccine, and of the 2.5 million doses provided by EC, outbreaks have significantly reduced in number and no case was reported where breakdown of vaccination under challenge has been seen. The recorded number of type O outbreaks is much lower in 2006 than previously seen.
He also described the three components of vaccine potency testing procedure for each batch, cattle challenge, serological potency tests in 20 animals tested 21 days post immunisation, and serology on at least 200 animals randomly sampled circa 21 days post immunisation.
The I.R of Iran presented a country situation report and a report on development and testing of vaccines for use in Iran

The discussion on the above presentations, and the problems faced at regional level, was Chaired by FAO. Four types of problems were identified in the control of epidemic FMD in the past years:

1. Lack of timely warning of emergence of new subtypes in the region prevents authorities from developing, acquiring or applying suitable vaccines and other preventive measures.
2. Failure to prevent transmission; gaps in the prevention and control measures which allow persistence, emergence and epizootic spread of new virus types. High risk areas of the region continue to exist where factors such as low population immunity and high animal movement and contact act to maintain infection.

3. Lack of exchange on an urgent basis of key virus isolates and seed viruses which could be used to develop vaccines in response to virus emergence.
4. The lack of rapid availability of vaccine for emergency campaigns, including non-existence of vaccine banks in the region. Only Turkey is in development of an antigen bank to enable it to deal with fluctuating demand of field programs and for emergency use.

The meeting then elected reporting groups which provided recommendations to address the first three problems. Development of vaccine/antigen banks was proposed (by Syrian representative) to address the fourth problem.

The recommendations of the working groups were discussed on the 12th.

Vaccine performance and quality, and monitoring of vaccination programs
A presentation on the development and application of international standards for vaccine potency, quality and safety, was presented by Dr Valarcher .He provided a historical review of the development of the standards and on the OIE and European Pharmacopoeia requirements. The presentation was significant interest and stimulated many questions which could not be answered in the time available. The high interest of regulatory authorities indicated this topic is important for those funding and evaluating programs. Several participants called for higher standardization between countries of vaccine potency testing in line with the OIE. This topic should be a regular Agenda item for future meetings.

Sero-monitoring and the evaluation of vaccination programs
The system applied in each country for monitoring of vaccine quality, both locally produced and imported, and of vaccination program performance was summarised and discussed.
There was a wide variation in use of sero-monitoring in each country; randomised sero-survey for population immunity was only described in Thrace region of Turkey. Syria applies sero-monitoring in selected border provinces but not in a way that enables the average population immunity to be determined. The difference between monitoring of vaccine inputs (vaccine supplied, vials returned empty, spot checks on cold chain and audit of records), of population immunity, or of outcome (impact on FMDV incidence in an area) was discussed. Optimisation of programs was discussed, and the issue of sheep vaccination. It was generally agreed that optimising programs will require monitoring of FMD incidence (evidence of outbreaks and of new sero-conversions) in relation to population immunity in an area, and other epidemiological circumstances. A specific, integrated approach will be needed to determine is sheep required to be vaccinated to prevent their playing a role in maintaining infection.
Only Turkey (Thrace region), and Syria (in border regions) have regular (Thrace) or recent (Syria) sero-monitoring for virus circulation.
Harmonisation of vaccine monitoring between countries was proposed as a way to increase trust in the preventive measures being applied across boundaries.

Closure of meeting
Dr Sumption expressed his appreciation and that of FAO for the excellent arrangements made to host the meeting by staff of the IVO and of the Central Veterinary Laboratory, Karaj, Tehran, especially the Director of the CVL and staff responsible for liaison, the meeting room and interpretation. The meeting had been arranged at short notice and he thanked Dr Gieiger and the FAO Office in Iran for their hard work, and thanked the participants for their efforts to attend despite long and arduous travel schedules.

Annex 1

Country	FMDV – 2006	Vaccination program - 2006	Monitoring Program	Notes
I.R Iran	A 05, A87, type O (Asia-1; 2005, 2 outbreak)	Cattle: programs reaching 60-70% population; - 3 x per year (Merial A87/O Manisa/Asia-1Shamir) **or** Razi tri- (A05/O shabestan/Iran /Asia-1 Iran) or tetravalent A05/A87/O/Asia-1) Sheep: 1x/year, Razi , reaching 30% population	Vaccine: QC ar Razi Inst, no independent testing. Safety and sterility tested on Merial vacc. Program: Vaccine use recorded and analysed using GIS. Some sero-monitoring began 2005; limited program. Program to be designed for 2006-	Homologous A05 vaccine first produced by Razi Institute on emergency basis for ring vaccination in 2005.
Iraq	No virus typing presented. Sporadic cases	Cattle: Trivalent (A22/O/Asia-1) oil adjuvanted vaccine, Raksha; Indian Immunologicals). Program: every 9 months plus emergency ring vac. Sheep: some	Vaccine: no independent testing. Program: CVL undertakes some sero-monitoring post vaccination	
Syria	FMD outbreaks not reported in 2006. In 2005, NSP positivity (10-12%) indicated virus circulation.	Cattle: Trivalent A Iran96/O Indian 53/78/Asia-1 Shamir (Merial), applied twice per year Sheep: 1x year, all population merial	Vaccine: each batch tested in Syria (alternative potency test, serology at Pirbright) prior to application. Program: once a year sero-survey in cattle, 3 months post-vaccination, conducted at 6 locations close to borders across the country. (immunity and NSP)	
Turkey	A22 like (A Iran 05), type O	Two programs, one for Thrace region (2 x cattle, 1 x sheep) and Anatolian program (2 x cattle, sheep only on demand). Vaccine: SAP Institute oil adjubvated A22 Mahmatli, O Manisa, Asia-1; additional 2.5 million doses from EC of A22 Iraq/O/Asia-1.	Vaccine: 3 component testing of each batch (challenge, serology on 20 animals, immunity rate in >200 field vaccinated animals 30-60 days post vacc). Program: Recording of vaccine application. Sero-monitoring for immunity and NSP: - in Thrace, annual program designed Turkey/FAO/EC. - not yet official program in Anatolia but some applied to pvp program	A22 Mahmatli component revived and replaces A Iran 96 in emergency and routine vaccine used in 2006.

FIELD EVENT DEFINITION

1. The occurrence of very severe FMD outbreaks in vaccinated animals which have a high level of immunity (suggests new subtype)
2. The occurrence of FMD in vaccinated epidemiological unit in the face of a strong immunity, eg.1 or 2 months after vaccination (possible new subtype),
3. The emergence of important outbreaks (more than expected level) in vaccinated area,
4. The occurrence of FMD outbreaks in area with no background of FMD outbreaks (no animal movement, eg. in dairy cattle farms)
5. The occurrence of FMD outbreaks in border area (to be defined by risk) with severe clinical signs.

Recommendation:

1. *Preliminary report is needed to alert the situation (field event report)*
2. *Virus type and subtype should be established and reported in the full report.*

LABORATORY EVENT DEFINITION

1. Detection of a new subtype apart from already existing in the country
2. Increasing number of samples received over a short period
3. Having unexpected test results
4. Having more negative results rather than positive in virus detection tests;
5. Receiving samples from unexpected area such as free from FMD or where no outbreak has been recorded area for some prolonged period (e.g. 12 months)
6. Receiving samples from border area with high risk neighbouring countries
7. Having some epidemiological data indicating extraordinary situation
8. Having information from neighbouring country laboratory about emerging new subtype.

Recommendation:

1. Inform Headquarter and Field d Official Vet in order to be prepared to a new situation
2. More epidemiological investigation should be conducted
3. Communication network with neighbouring laboratories and steering institution should be set up
4. Diagnostic capacity and collaborative research programs should be increased
5. Each national reference laboratory should develop and implement a Laboratory Contingency Plan to assist it to cope with surges in demand
6. Each country should participate in an international QA scheme, such as the Phase XLY funded by FAO and implemented by the WRL Pirbright. The cost of the participation may be covered by EUFMD/FAO.

SHARING OF INFORMATION

What is needed?

- To inform quickly neighbouring countries of any significant events on FMD in the field or in the laboratory

How can we do it?

- To use standard form to get standard information
- To use a focal point to collect and disseminate information

Actually, several ways to exchange information:

- All countries are OIE members and they have to notify significant events to OIE through WAHIS
- signing bilateral protocol amount countries of the region to exchange significant information by E-mail or/and official notification
- unsigned agreement at level of CVO to share disease event information.

Recommendation:

1. Significant epidemiological events such as defined should be reported to the OIE, as per OIE requirements;
*2. Use the MTF/INT/003/EEC as focal point for sharing information on any significant event, with standard form which will be drafted by the project; **a task force** with members to be nominated by the CVO, from each country should prepare the forms and propose the working arrangements;*
*3. Regional workshop **each year**, or arranged earlier if an emergency of regional importance occurs, in one participating country.*

EXCHANGE OF CIRCULATING VIRUS STRAIN

FMD have 7 serotypes and each serotype easily exchanges its structure antigenicly and genetically, which resulted in a new devastating outbreak. When this occurs, preparing a new vaccine with a new strain will take time while causing the spread of the disease in the country and in neighbouring countries.

Therefore exchange of circulating virus strains will help to take appropriated measures before the spread of the disease.

Recommendation:
To establish rapid exchange of virus isolates leading to a regional virus strain bank.
Participating countries should license their laboratories for receipt of exotic virus isolates.

FOOT AND MOUTH DISEASE STATUS IN THE ISLAMIC REPUBLIC OF IRAN
(Country report)

Mohsen Meshkat (DVM-PhD), Abdollahi Daran (DVM/Iran veterinary organization)

FMD status in I.R. of Iran (Country Report)

By:
Mohsen Meshkat (DVM-PhD)
Abdollahi, Darab (DVM) / Iran
Veterinary Organization

Introduction :

- The Islamic Republic of Iran embraces approx. 1,648,000 square kilometers.
- It has around 7,744 kilometers of ground and marine borders with Turkmenistan, Azerbaijan and Armenia in the north, Afghanistan and Pakistan in the east and Turkey and Iraq in the west

Cloven-hoofed Livestock population

- Sheep 52 million,
- Goat 21 million,
- Cattle & Calve 7.5 million ,
- Buffalo 0.5 million,
- Camel 120000

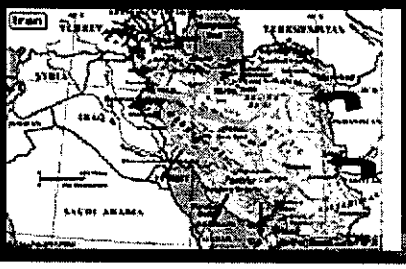
FMDV history in Iran

- ***Asia1***. Firstly isolated in 1956.
  - In 2000 after 9 years absence. it isolated from beef farms due to smuggling movement of animals from eastern borderline
- ***Type O***: Firstly isolated in 1950.

FMDV history in Iran

- ***Type A:*** Firstly isolated in 1960
  - Serotype A-87 totally different from A22
  - In 1996 -A96 which threaten even European territory especially Turkey due to high animal illegal movement condition in the country and border lines
  - In 2005, new outbreaks of FMDV in cattle population in western provinces (khozestan, E. & W. Azarbijan, ..) which named A05 by Razi institute and introduced to vaccine that produced by Razi Institute

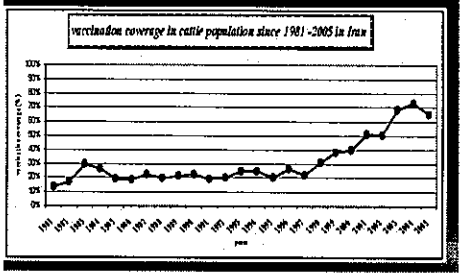
Livestock legal and illegal movement situation in Iran and border lines.



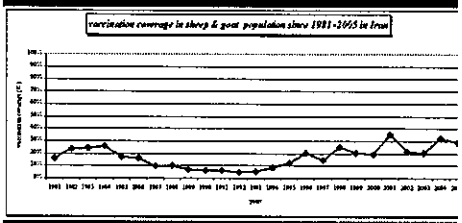
FMDV history in Iran

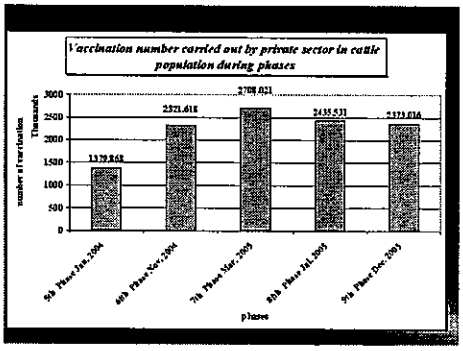
- Since 1950, FMD had been introduced in domestic farms.
- In 1959 Razi institute (Local vaccine producer) started to produce FMD killed vaccine with Frankel method

vaccination coverage in cattle population 1981-2005.



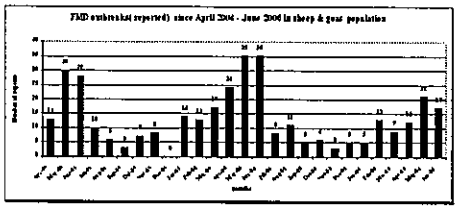
vaccination coverage in sheep & goat population 1981-2005.





Target mass vaccination

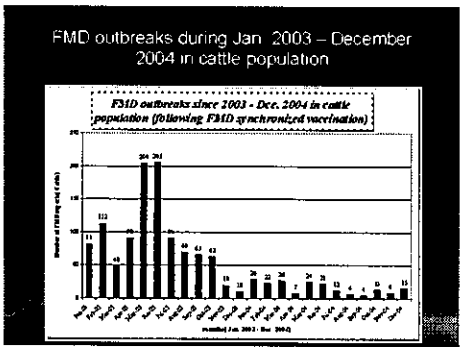
- Mass vaccination started on 1st. Feb. 2003 in cattle population up to 3.2 million cattle and calves. Which increase up to 4.2 million during phases.
- Vaccination campaign finished during 30 working days.



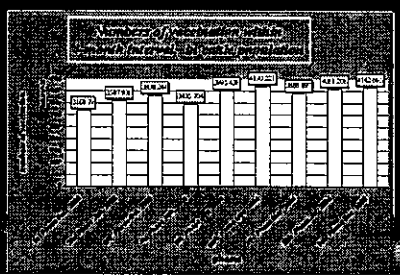
Target mass vaccination

- Government & private vaccinators, group of assessors and administrative staffs,
  - Cooperation of related livestock unions,
  - extension program such as; printing and publishing more than 20000 sanitary public notice, media and TV & radio announcements and interview, has been under taken

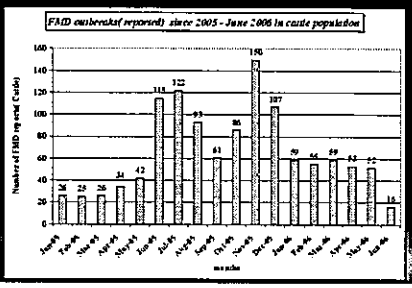
FMD outbreaks during Jan. 2003 – December 2004 in cattle population



Vaccination policy with 4-month interval in cattle population(Each phase lasted 30 working days)



FMD outbreaks (Reported) since 2005-june 2006 in cattle



Number of samples send to WRL during April 2005- June 2006

Lab.	WRL				
Count of result	type of animal				
result	goat	camel	cattle	sheep	Grand Total
Negative	1		2	1	4
type A			16	1	17
type O			4	2	6
Unknown		1	28	2	31
PCR +			2		2
Grand Total	1	1	52	6	60

Number of samples collected during April 2005-June 2006

Lab.	(All)					
Count of result	Type of animal					
result	Goat	Camel	Cattle	Buffalo	Sheep	Grand Total
Negative	30		212		45	287
Rejected	2		47	1	20	70
type A			307		3	310
Type A + O			2			2
Type A87	1		21		1	23
Type A05		1	76			77
Type A05 + A22			1			1
Type A05 + A87			9		1	10
Type A05 + O			2			2
type O	1		42		7	50
Unknown		1	134		32	167
PCR +			14	1		15
Axial					1	1
Grand Total	34	2	667	2	90	775

Conclusion

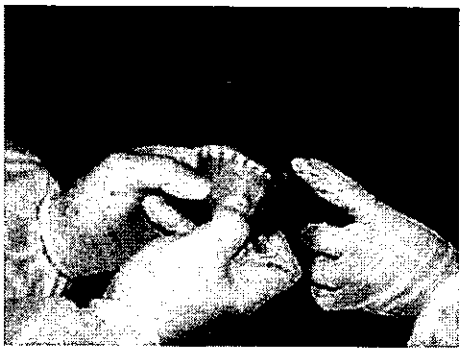
- continues vaccination policy
- GIS method conducted in all the provinces,
- Develop tools for Risk analysis,
- Contingency planning & emergency preparation,

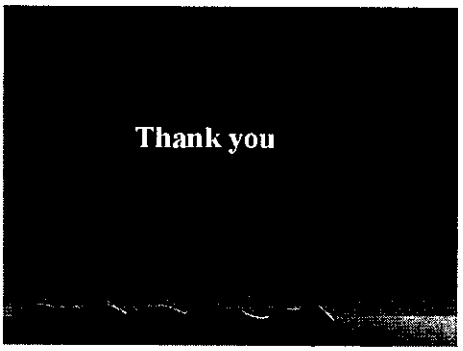
Number of samples send to CVL during April 2005- June 2006

Lab.	CVL				
Count of result	Type of animal				
result	goat	cattle	Buffalo	sheep	Grand Total
Negative	8	179		43	230
Rejected	3	20	1	6	29
type A		90		2	92
Type A + O		2			2
type O	1	34		5	40
Unknown		77		8	85
Axial				1	1
Grand Total	11	402	1	65	479

Number of samples send to RAZI Ins. during April 2005- June 2006

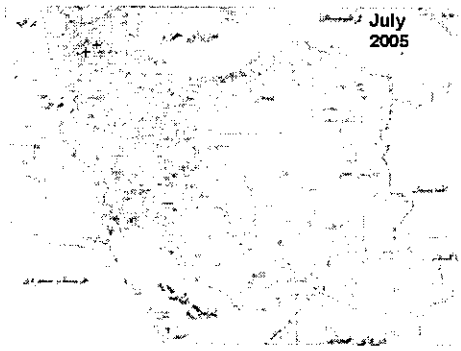
Lab.	RAZI INSTITUTE					
Count of result	Type of animal					
result	goat	camel	cattle	buffalo	sheep	Grand Total
Negative			31		1	32
Rejected	1		24		13	38
type A			1			1
Type A B?	1		21		1	23
Type A05		1	76			77
Type A05 +A22			1			1
Type A05 +A87			9		1	10
Type A05 + O			2			2
type O			4			4
Unknown			29		2	31
PCR +			12	3		15
Grand Total	2	1	210	3	16	232





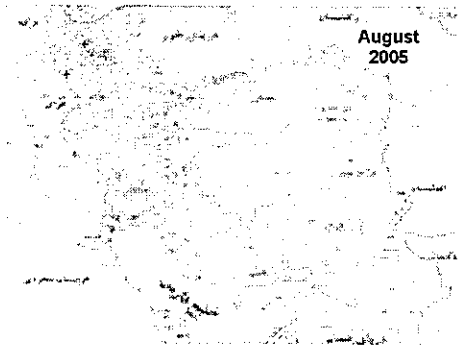
RAZI INSTITUTE, TEHERAN

GOOD SCIENCE



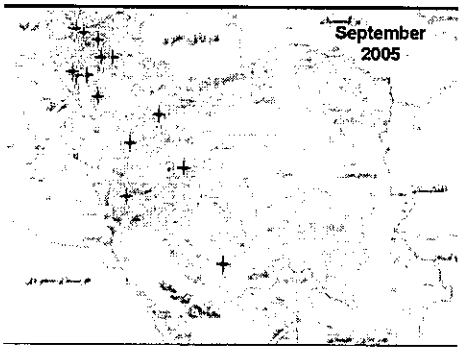
IRAN FMD Vaccine History

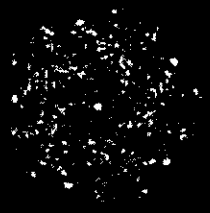
1960	O , Ashz	LK primary
1962	O , Ashz , SAT1	LK primary
1963	O , A , SAT1	LK p & BHK m
1966	O, Ashz,A22	frenkel & BHKm
1969	O , A22 ,	LK p & BHK m
1973	O , A22 , Asia1	BHKs&BHKm&frnkl



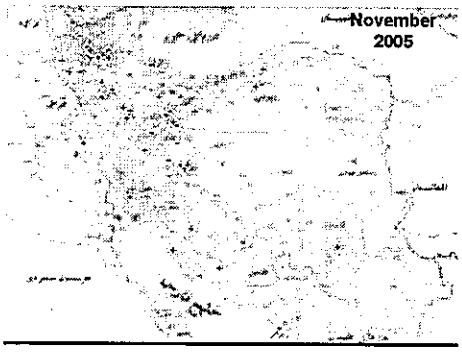
IRAN FMD Vaccine History$_{cont}$

1987	O , A87IR , Asia1	BHKs&frnkl
1992	O , A87IR	BHKs
1996	O , A87IR , A96	BHKs
1999	O,A87IR,A96,Asia1	BHKs
2001	O,A87IR,Asia1	BHKs
2005	O,A87IR,A05 ,Asia1	BHKs



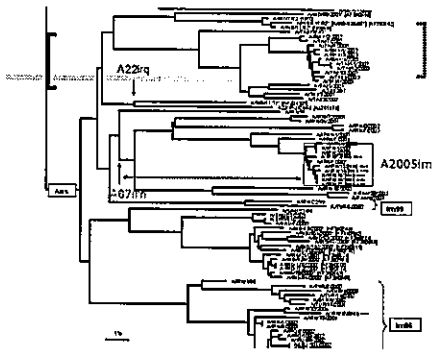


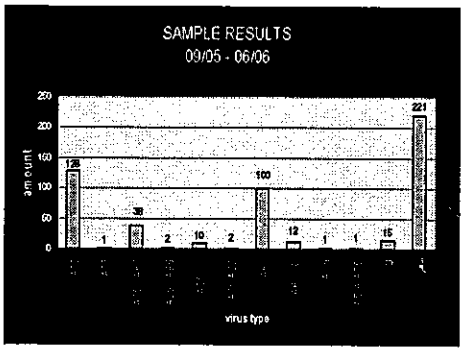
FMD virus

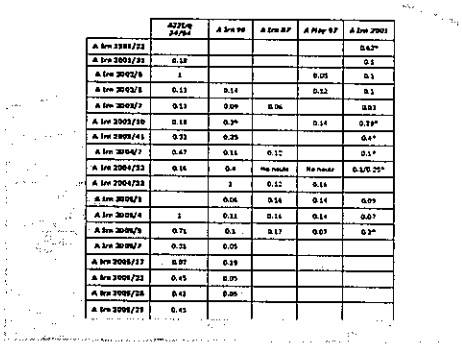


FMD Virus subtypes A
IRAN
1987 - 2005

- A22 (A22 Iraq) 1977
- A87IR (mardabad) 1987
- A96 (A200) 1996
- A577 1997
- A05IR (A179) 2005







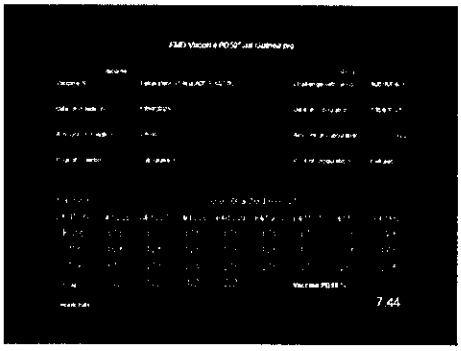
Relationship value of 5 subtypes A
isolated from IRAN (1987 - 2005)

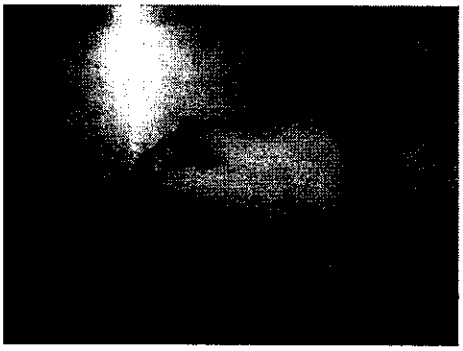
serum / Virus	A05IR	A87IR	A577	A22	A96
	1	0.48	0.5	0.37	0.05
	0.52	1	1	0.375	0.06
	0.45	0.82	1	0.37	0.062
	0.6	0.54	0.54	1	0.4
	0.048	0.6	0.72	0.68	1

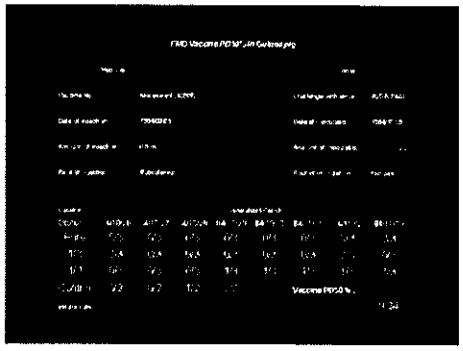
Relationship value of 5 subtypes A
isolated from IRAN (1987 - 2005)

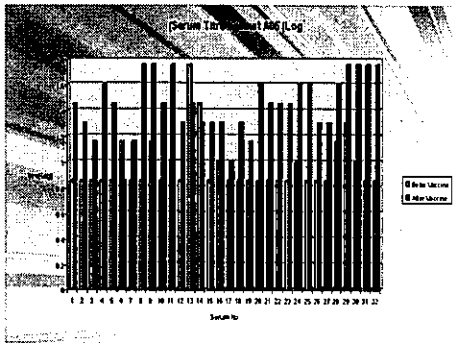
	A05IR	A87IR	A577	A22	A96
A05IR	1	....	....	....	....
A87IR	0.46	1	....	....	....
A577	0.47	0.91	1	....	....
A22	0.43	0.45	0.42	1	....
A96	0.05	0.21	0.20	0.27	1

0.7 – 1 no significant difference
0.3 – 0.7 significant difference (new sub type)
0 – 0.3 highly significant difference









Sience saves life

Science makes life easier

Science makes life purposfull

Through Research

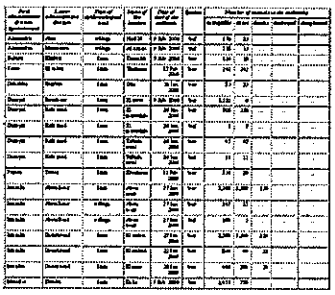
FMD TYPE A EPIDEMIC IN EGYPT, 2006

FMD type A epidemic in Egypt 2006

Presentation for EUFMD Executive Committee

15th June 2006

Widespread locations affected – 1st report to OIE



Recent FMD incursions in the near-east

- SAT 2 in Libya -2003
- New A type - Iran and Turkey (to borders of EU): massive impact
- African A type in Egypt (A Egypt 2006) – entry leads to epidemic spread, massive losses
- Type Asia-1: circulation in central and eastern Iran other west Asian countries, threatens near-east countries
- What next? Multiple circulating FMD virus types in east Africa, (SAT1, 2, type A, O and C) -threat to near east
- Not to forget - endemic type O in most of near-east

Type A entry of exotic African type A virus (A Egypt 2006) into Egypt – for first time in 4th of 5 years

- Previous FMD reported to OIE: type O, in June 2000
- Vaccination only vs type O- locally produced
- 15th Feb 2006: report to OIE: highly alarming, 8 Governs, type A, SAT 2 suspected
- Samples received WRL – 20th Feb
- Sequenced by 23rd Feb – east African type (not A22 like)
- Egyptian request to FAO (EUFMD) for vaccine
- FAO offered diagnostic and epidemiologic assistance – priority to clarify SAT2 situation
- Initial vaccine matching indicates no EUFMD antigens suitable. Non know2n suitable vaccine in commercial production. A Iran'05 possible use (ONE MS ONLY). Lack of IWS to test A Eritrea'98 (Merial seed virus)
- 1st mission – Scott Reid-WRL – 15-17th March. No evidence for SAT2
- EUFMD hears via FAO office in Egypt of FMD in Egypt
- Vaccine matching indicates only A Iran'05 and A Eritrea'98 suitable
- 2nd mission – Keith Sumption 24th March- 1st April
- 3rd mission – Simon Barteling – June 5-9th

Type A entry of exotic African type A virus (A Egypt 2006) into Egypt – for first time in 4th of 5 years

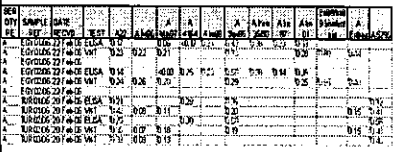
- type A virus - east African type, no similar virus found in last 8 years
- Circumstances – index case few km from quarantine stations
  - Video seen of quarantine station showed FMD and also LSD
  - First infection date unclear – presume early Jan, cattle apparently from Ethiopia via Djibouti
- by time of report to OIE, infection was widespread (8 Govnts in <3 weeks)
- NO stockpile of vaccine in country or internationl
- No closely matched vaccine types are regularly commercially produced

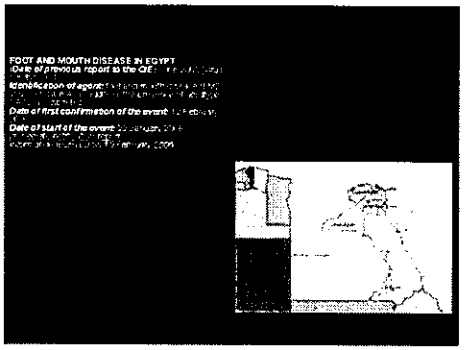
- FOOT AND MOUTH DISEASE IN EGYPT
- *Date of previous report to the OIE:*
- *Identification of agent:*
- *Date of first confirmation of the event:*
- *Date of start of the event:* 13 January 2006
- Total number of animals affected:
- Number of animals destroyed: 0

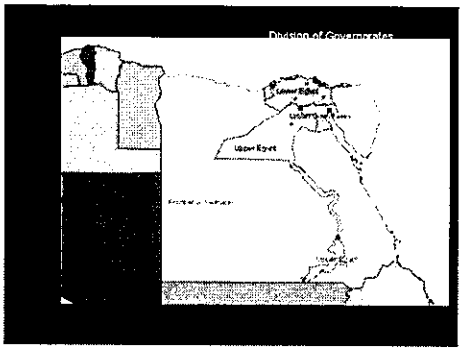
WRL vaccine matching results – May 06

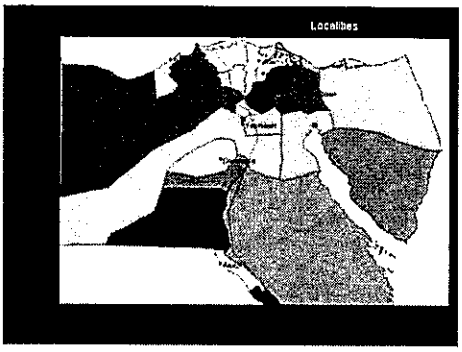
r_1 values

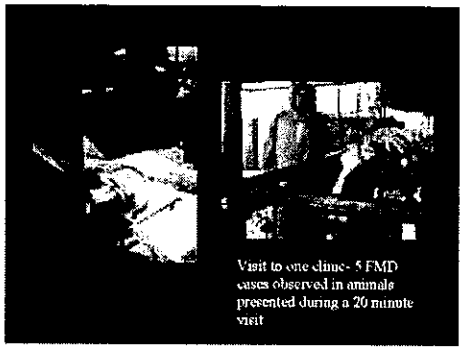
Egypt and Turkey

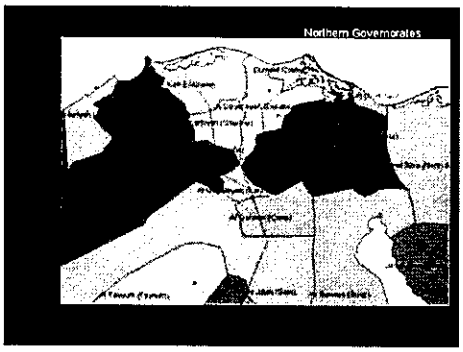


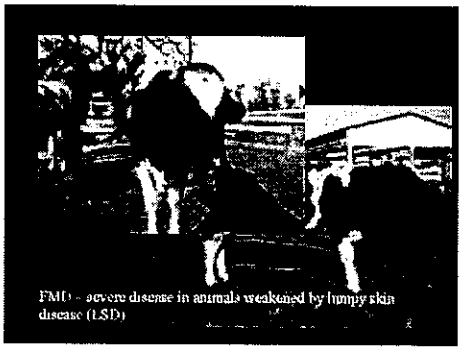

FOOT AND MOUTH DISEASE IN EGYPT

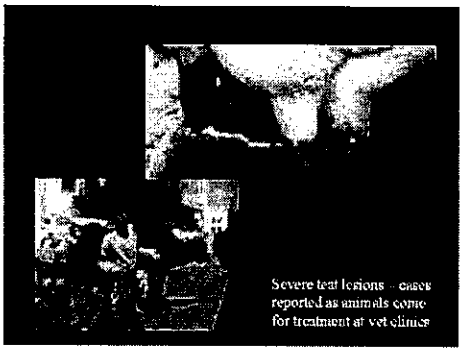

Division of Governorates


Localities


Visit to one clinic- 5 FMD cases observed in animals presented during a 20 minute visit


Northern Governorates


FMD - severe disease in animals weakened by lumpy skin disease (LSD)



Severe teat lesions – cases reported as animals come for treatment at vet clinics

Risk-

- Exceptionally high incidence
- Regional risk - Little to prevent movement to borders
- Viraemic animals must have been and continue to enter food chain
- High risk for contamination of people
- Lack of biosecurity in evidence at any level
- Opportunities for carriage by egyptian travellers (tourists less likely to visit farms)

Recommendations from 1st two missions

- Diagnostics – Scott Reid – WRL and Abbasia collaboration to improve PCR and ELISA detection
- Control: recommendations KJS to GOVS on 1st April
  - 6 points for immediate action
  - *3 Phase Vaccination campaign proposed*
  - Focus all national lab effort on increasing type A production (2 million doses /month – 4 months for national vaccination)
  - Of commercial vaccines, only Merial A Eritrea 98 /A Saudi 95 of value

Problems faced by GOVS

- [illegible]
- [illegible]
- [illegible]
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- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

Immediate assistance offered

- Diagnostic reagent costs
- Vaccine production
  - SVSRI requested assistance to increase virus production (BHK suspension cells needed…)
  - Ismil requested virus to produced own vaccine
  - Potential exchange offered with FAO mediation but politics intervened – no progress
  - IVI Swiss have revived BHK suspension cell and will make available
  - IZSLER Brescia also can avail BHK clone 31 and clone 45 line
  - Expertise to increase immediate vaccine production at Abbasia
    - Expert mission (Simon Barteling – 5-9th June 2006)

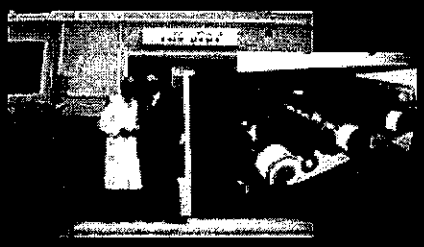
Difficulty for risk assessment and response

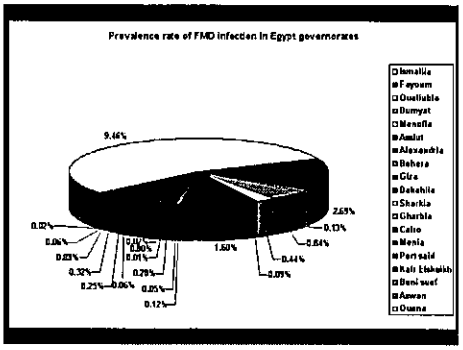
- Insufficient information to form a area based strategy FMD apparently across whole delta region
- Lack of follow up report after first report to OIE
- By date of KJS visit (28/3) only areas apparently untouched were in upper Nile (16 Govts, ~13,000 cases)
- Scale of FMD evidence in the field visits suggests almost all susceptibles will experience FMD in delta region
- Difficulty to assess duration and change in incidence may expect natural decline – April

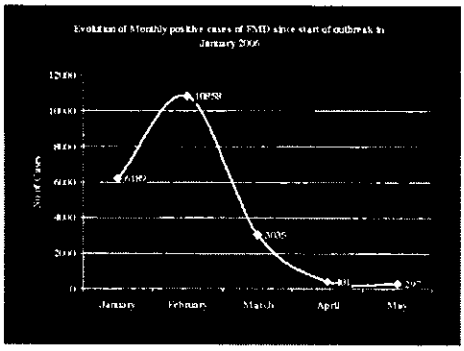
FMD in Egypt

[illegible] provided by the General Organization of Veterinary Services
May 21st 2006

FMD experience exists in the Region – but 2006 epidemic situation and locally available technology for vaccine production resembles 1960s







How could the OIE FAO Regional GF-TADS for middle east assist?

- 1st Steering Committee met in April in Beirut
- Suggestions discussed:
- Improve risk assessment and communication to OVOs
- Establish a Regional FMD Technical Network
- Establish regional support centre:
  - Training centre
  - Support upgrading of candidate regional reference laboratories, to join OIE/FAO FMD laboratory network
- Consider options and feasibility of establishing Regional Vaccine bank(s)

Vaccine bank issues

Discussed between EUFMD Secretary, WRL, DG-SANCO - from the first point that the east African A type was detected at WRL

Funding requests to DG-SANCO for cross –protection study –potency test with type A (A22 Iraq) antigens -planned (August)

EUVB – SANCO to place order for appropriate antigen

All highlights the need for detection of virus subtypes before the event

OIE/FAO GF-TADS Steering Committee Beirut, April 2006

- FMD regional situation – EUFMD Secretary invited to present
- Recent FMD crises in middle east
- Vaccine selection and risk assessment - importance of regional and global virus surveillance
- Vaccine selection and vaccine banks – is the European model relevant?
- Lessons from the current type A crises
- Improving prevention and response capacity

Appendix 12

Mission to Egypt- 27th March-1st April

Support to the control of Foot-and-Mouth Disease (FMD) and Lumpy Skin Disease (LSD)
Keith Sumption, *Secretary, EUFMD Commission, Animal Health Service, FAO*

Situation

The situation of the occurrence of an exotic type of FMD virus to which animals are not vaccinated and where no vaccine reserve exists at national level and with no internationally available vaccine reserve, is about the most difficult that can be imagined. The situation in affected Governorates appears exceptionally severe, probably because of the very high virus production by sick animals coupled with the lack of sanitary controls to prevent indirect contact in the villages (e.g. at watering points) or by direct animal contact .

In these epidemic situations only a high control of animal movement control, combined with preventive sanitary measures taken by animal owners in each affected area, can slow the spread of infection. The situation observed indicates that very few bio-security measures are taken by large or small farms. Changing this behaviour will be very difficult but the GOVS could take the lead to **promote safe practises in daily animal husbandry** for these situations.

Given that sufficient vaccine will not be available for several months, preventive measures by **animal owners and keepers** need urgently to be stepped up. Farmers must play their role in disease control, backed by strong supportive information from GOVS. Marketing of animals is high risk until some 14 days after vaccination has been completed.

For LSD, the national situation is not clear, but the main risk season (fly season) is approaching and therefore extra attention is needed to 1) reduce spread in affected areas and 2) achieve good and effective vaccination.

General Recommendations (to GOVS, Government of Egypt)

Foot-and-Mouth Disease control (FMD)

1. **Define and declare the campaign strategy** for the current type A emergency
   It is suggested these are:
   - Phase 1, aiming to prevent new cases by sanitary controls, on live animals, vehicles and by people, and targeting messages to the households of affected districts in order to reduce losses in the period up until immunity in the population (14 days after vaccination);
   - Phase II, to conduct an **emergency vaccination campaign** (in two months) using vaccine matched to A Egypt 2006 virus,
   - Phase III to complete national type A vaccination campaign, with aim of achieving vaccination of all large ruminants (in 4 months);
2. **Give priority to the production of the type A Egypt 2006 vaccine in next 4 months** , and increase the rate of production at VSVRI Abbasia through support to introduce new technology that will increase throughput;
3. **Create an FMD Task Force at GOVS,** that will 1) collate epidemiology and vaccination progress data and produce each week an update of the situation to enable monitoring of the campaign; 2) provide a summary of progress on the recommendations in this report;
4. **To support the above, strengthen the national epidemiology unit** on an immediate basis (1-2 persons dedicated)
5. **Conduct an independent review**, which could draw upon FAO/OIE assistance, to review the protocols used in the import risk assessment procedure;
6. **Prepare contingency plans** that address the risk from importation of live animals from South America, and from other countries, for example to ensure early detection and reaction to presence of FMD in quarantine, and **access to suitable formulated vaccine** and seed viruses for production of South American strains of O and A.

Longer term

7. Prepare an investment plan, (with FAO and World Bank involvement) for improvement of the **national animal disease surveillance system** , identifying the investments needed at national, Governorate and District level;

8. That **Egypt establishes a vaccine or antigen bank**, in Egypt or through a commercial contract with a vaccine supplier, that will enable GOVS to respond to new disease introductions with a rapid (1 week) delivery of vaccine for use in ring vaccination.
9. That Egypt, in collaboration with FAO and OIE, plays a supportive role to improve the information and surveillance for FMD virus types circulating in the Horn of Africa region, including networking between scientists to ensure better identification of risks and contingency plans to prevent similar future crises.

FAO support to the above

The lack of an antigenically matched vaccine to the A Egypt 2005 strain has prevented FAO from being able to offer a matched vaccine for use in this situation.

The EUFMD Commission of FAO wishes to support Egypt to produce the new vaccine at VSVRI Abbasia and therefore will act to supply of suitable cell lines for suspension cell culture; VSVRI is invited to make a precise request to FAO for other items immediately required to increase vaccine production throughput

On an immediate basis, FAO will assist to resolve technical questions by covering the costs of the shipment of samples to Pirbright (at least 3 shipments, for example one per month).

FAO invites a response to the above recommendations; FAO may be able to provide additional support on request, for example in training of GOVS staff, in preparation of investment plans, etc.

Acknowledgements

The open and transparent discussions with GOVS staff, which were held during such a difficult and busy times for GOVS in disease control, greatly assisted the mission. The hospitality provided during the field trip is most warmly appreciated.

Lumpy skin disease

The lack of detailed information available on LSD first appearance and subsequent spread prevents an accurate assessment of the situation. The situation in affected Governorates appears locally severe but possibly LSD has not spread widely in each affected area. The main risk season (fly season) is approaching and therefore extra attention is needed to 1) reduce spread in affected areas and 2) achieve good and effective vaccination.

General Recommendations

1. Epidemiology unit of GOVS should first review the current distribution and assess risk of spread of the epidemic.
2. GOVS should define the strategy and thereafter declare the campaign strategy for the current situation,
3. Given the infectivity of animals from herds during recovery phase after outbreaks, consider permitting movements only direct to slaughter;
4. If possible, complete vaccination across the country before the major fly transmission season occurs;
5. **Improve the vaccine handling instructions** and ensure **Governorates act to increase the understanding of veterinarians of the importance of vaccine handling** to avoid exposure of the live virus to sunlight and other factors that will affect vaccine efficacy;
6. Consider increasing the titre of virus in each dose, if lack of viable virus at the point of use is considered part of the problem of vaccine failure.
7. Provide virus samples from the outbreaks to Pirbright;
8. Test vaccine by a challenge test using LSD virus (Neethling virus); external support from Pirbright may assist to introduce and use the PCR test to determine the effect of vaccination on virus shedding.

Foot-and-Mouth Disease

Specific recommendations

1. Prevention at herd and village level:
    a. Banning of live animal markets in affected districts until vaccination completed (only allow direct to slaughter) ;
    b. Public awareness messages indicating how to avoid infection: via all effective routes;
    c. Connection to avian influenza; human activities spread FMD and AI - re-enforce the message
    d. Communicate how to avoid bringing infection into village/herds
    e. Communicate how to reduce spread within affected villages – sick animals to be nursed at home, NOT taken to pasture or clinics
    f. Public awareness
    g. Report cases to clinic
    h. Once infection is known within a district, continue the public awareness until vaccination completed.

2. Vaccination:
    i. Give highest priority to increasing the production at Abbasia of type A Egypt 2006 vaccine, thereby producing at least 2 million doses per month of type A vaccine to enable production of national needs in 4 months;
        1. in short term, type O manisa vaccine requirements to be sourced from other producers that comply with GMP and OIE/EP requirements;
        2. To increase monthly production, FAO to respond to informal request of Abbasia for BHK cell lines that are adapted for suspension cell culture;
        3. Abbasia to provide the A Egypt 2006 seed virus (BHK cell adapted) to FAO to enable production at other quality approved sites;
    ii. Vaccination strategy;
        1. **define and declare the campaign strategy** – the objectives of vaccination, and the time to reach this; for example to achieve vaccination of all large ruminants in Egypt within 4 months, and emergency vaccination in high risk populations within 4 weeks after vaccine availability;
        2. **priority population:** should include all **large** ruminants including calves (from one day of age) since maternal antibodies do not exist from past vaccinations; include sheep and goats in later campaigns when adequate vaccine supply has been achieved

3. **boosters**: given the very high level of contamination, the primary vaccination with type A should be followed by a booster dose 1-3 months later. Since vaccine is in short supply, it is suggested that boosters are not given until vaccine sufficient for 100% of the national cattle and buffalo population has been distributed (e.g. in 3-4 months from present)

4. define and declare the strategy – the objectives of vaccination, and the time to reach this - for example:

a. Objective 1: to reduce risk of spread to currently unaffected Governorates by creating a strategic vaccination barrier in Governorates that have special importance for disease movement;

i. Governorate of.....

ii. Target of 100% vaccination in this Governorate within 30 days;

b. Objective 2: to reduce potential loss in most at risk districts which are threatened by proximity to infected districts;

i. Before vaccine is released, each affected Governorate should define their free and least affected districts;

ii. GOVS should then decide on vaccine allocation , taking into consideration the need to create geographical blocks of vaccination (districts that are joining)

iii. Conduct vaccination on an emergency basis in order to achieve an effective immunity in the population - giving a short but feasible target time, e.g. 14 days to achieve 100% vaccination in such Districts, after vaccine receipt

iv. Aim at high (100%) vaccination of cattle and buffalo within such districts,

v. To avoid waste of vaccine and to reduce spreading infection by vaccinators:

1. Vaccination to be conducted at the household (not centrally) on the proclaimed day;
2. fresh needles for each animal to be used, re-use after sterilisation if necessary;
3. every team to carry disinfectants and to disinfectant themselves and vehicles before moving to new villages;
4. if teams meet signs of FMD infection;
   a. to avoid vaccination on that holding and those within 100 metres and/or those holdings beside road used by this group of animals moving to fields in past week;
   b. team to remove possible virus on boots, hands, clothing and vehicle before moving on;
   c. if in a District widespread (>25%) active or undiscovered past infection is detected, then to avoid waste of vaccination and spreading infection, move to another District, or more than 5 km from the affected villages;

c. Campaign progress:

i. each week the Governorates to provide the following progress report to GOVS: number of cattle and buffalo vaccinated in past week, by district; cumulative totals vaccinated per district; and cumulative proportion vaccinated (% total cattle and buffalo vaccinated)

d. Sero-monitoring:

i. Consider blood sampling of a cohort of >20 vaccinated animals every 3 weeks (21 day) intervals to assess duration of immunity;

ii. Review sero-monitoring scheme to ensure that the it will meet needs of current situation;

Report of a short mission (5 to 9 June 2006) to the Veterinary Serum and Vaccine Research Institute(VSVRI) at Abassia, Cairo to advise on possibilities to improve and increase FMD vaccine production.

By Dr. S.J. Barteling[7], FAO Consultant

(abridged version for 73rd Session Report)

Summary

In Egypt in February this year there were outbreaks of FMD type A in a (private) quarantine station near Ismalia that receives cattle from Ethiopia for slaughter in Egypt. In Egypt routine vaccination is against type O1 only, therefore Egyptian cattle were not protected against this FMD sero-type. The virus escaped into the country and caused very severe disease in dairy cattle and buffalo in particular. Sheep and goats don't seem to be susceptible for this type of virus.

The virus type was not matched very well by existing vaccine strains and, therefore, international assistance, by sending vaccines from international suppliers, was not possible. The country must completely rely on the vaccine production at VSVRI at Abassia, Cairo. There, in March they started to produce type A vaccine which was added to the type O to make the vaccine bi-valent. The production so far was reasonably successful and 3 million doses have been produced since then. The vaccine was immediately sent to the field to protect valuable dairy herds and buffalos in threatened areas in the first place. The vaccine seemed to work reasonably well and the number of (registered) outbreaks on the large dairy farms has recently been decreased considerably. However, there certainly is FMD going on in backyard farms where it is not always notified.

The aim is to vaccinate in the course of the year all susceptible cattle and buffalo twice. To this end 14 million doses are needed. With the current facilities the institute can only provide about 60 – 70 % of that quantity, and, therefore the production output must be increased by approximately 35%.

The production facilities are in a relatively poor condition. I have discussed with the staff how to improve the situation by simple means, trying to introduce some of the principles of Good Manufacturing Practice (GMP).

The virus is produced in roller bottles with cells of the baby hamster kidney (BHK) cell line which is not easy to scale-up. Limitations are roller bottle equipment and incubating room facilities.

There is experience with BHK suspension cultures. A number of staff members were made familiar with this technology about twelve years ago when they have been trained in Lelystad, The Netherlands, in the context of an EU-supported project. Also, in the context of that project sophisticated (Applikon) fermentor equipment was installed as well as modern filter equipment, an ultra-centrifuge and UV-scanning equipment for 146 S antigen detection.

The suspension cells obtained from Lelystad were lost by contamination and by insufficient backing-up from the liquid nitrogen stock. Also, the electronic regulation equipment of one of the (key) fermentors needs to be repaired. I have contacted the supplier but am awaiting their reaction.

The idea is to incorporate BHK-suspension cultures into the system and use cells that both grow in roller bottles and in suspension like were used in Brescia in the past. Dr. Sumption has already approached Brescia to send the cells to Cairo. VSVRI intends to seed roller bottles with cells grown in suspension (BHK cells on roller bottles often give higher virus yields than in suspension). Seeding with suspension cells will allow using the roller bottles for virus production that currently are used to produce sufficient cells. It would increase the production capacity with about 30 %. For seeding all the roller bottles approximately 40 l of suspension culture cells are needed daily. However, one must be careful. The Brescia cells certainly have properties that differ from the current VSVRI cells and might perform less good for the current Egyptian vaccine strain. Also, the production becomes dependent on the success of the suspension cultures and one must be careful to change a winning team. Therefore, I have recommended first to apply seeding with suspension cultures (when available) for half the roller bottle capacity only. This will require approximately 20 l of suspension cells per day. If the 140 l Applikon fermentor is used for cell production, the remaining cells can be sent to the (old) Olsa fermentor (250 l) for virus production. I have advised on how to operate the Olsa fermentor by simple means. If this is successful, certainly sufficient antigen can be produced to fulfil the Egyptian requirements.

All these aspects have been discussed with the staff.

Also the organization of the production may need further attention. Medium preparation and cell production could better be carried out in (two) specialized units.

A Quality Control (QC) laboratory and a Research and Development (R&D) unit both well equipped and with well trained staff should accompany the production.

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a. [7] Simbar Consultancy, Amsterdam

Formulation of the vaccine is not based on 146S-antigen content but on a fixed volume of virus harvest. Virus harvests are evaluated for sufficient antigen by the classical semi-quantitative complement fixation reaction (CBR) test and by a semi-quantitative ELISA test. By these (immunological-based) tests at least the presence of a certain amount of antigen is verified. They also check that the harvest contains the intended virus-type and is not contaminated with the other type.
146 S equipment is available but not operational. I have given some suggestions to make this equipment operational, however there was not sufficient time to implement my suggestions and to try this out.

Conclusion and recommendations

1. Facilities and organization

1.1. The facilities are about 50 years old and not well-maintained and are nowhere suited to meet criteria for Good Manufacturing Practice. Certainly, improvements by simple means (regular thorough cleaning, painting etc.) can contribute to a better production environment.

1.2. In general terms the vaccine production can be called old-fashioned. There are no (fixed) Standard Operational Procedures and clear quality criteria. It is a "free-floating system'. On a daily basis the operator or the management decides about what to do.

1.3. The organization of the vaccine production laboratory is evaluated by haphazard circumstances (available rooms, equipment, staff), not by a logical task-associated schedule of complementary activities in rooms dedicated to a particular task. For the longer term it is recommended to build new facilities with proper logistics and organization that meet basic GMP requirements.

1.4. Functions of rooms and names of staff members responsible for the functionality of the rooms are not indicated. Often production rooms contain much "rubbish" that does not contribute to the functionality of the rooms. It is recommended to implement a system making individual staff members responsible for functionality of rooms. A system of (critically) self-auditing by staff members may help in that respect.

1.5. The medium preparation for cell and virus production is carried out at 5 locations, which is not very efficient. Also, quality control becomes more complicated, in fact is missing. It is recommended to create one unit for medium preparation and to try to implement optimal a-septic circumstances.

1.6. Cell production is at 4 locations. For the moment one can leave it like that. On the longer term, when suspension cultures of the Brescia cells are successful, a more simple organization is recommended.

2. Vaccine formulation

2.1 Evaluation of antigen content of (inactivated) virus harvest is by semi-quantitative CBR and ELISA tests. Equipment for quantitative sucrose gradient centrifugation is available and it is recommended to make this (again) operational, if necessary, by making a pre-concentration step of samples by precipitation with PEG (e.g. 5x concentrated).

2.2 When 146S data are in agreement with CBR and ELISA data, vaccine formulation should be based on µg antigen rather than on culture harvest volume.

2.3 Saponin (0.8 mg/dose) is added as well as Al(OH)3 gel. The saponin is semi-purified and is obtained from two suppliers. Because batches of saponin may differ in their adjuvant activity it is recommended – for better standardization – to add saponin from both suppliers.

3. Vaccine performance

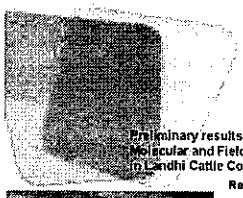
3.1 A batch of bivalent vaccine has been tested in cattle that were naïve for FMD (no antibodies). The vaccine performed quite well with neutralising antibody titres that varied in the range of 1.5 and 2.0 for type A and O respectively. These levels suggest sufficient protection. Better insight would be gained if more batches could be tested. Also it would help to send the samples to WRL, Pirbright for testing and to compare the results.

3.2 Performance of the vaccines in the field will be evaluated by post-vaccination serology of cattle in an relatively isolated area (kind of oasis) of which the Egyptian Veterinary Service is pretty sure that there are no cases of FMD yet. Although the first data must be available, I have not seen them yet and I have asked to send them by e-mail. It will certainly contribute to better insight on quality of the vaccines, their stability, and adequate (cold chain) shipment conditions. Also, it is recommended to send these sera to WRL for further evaluation.

Acknowledgments
I thank Dr. Adel Rahman and his staff for the warm welcome and the open, friendly, and supportive atmosphere during my stay at VSVRI. The hospitality encountered was greatly appreciated.

PRELIMINARY RESULTS FROM THE COLLABORATIVE PROJECT: MOLECULAR AND FIELD EPIDEMIOLOGY STUDIES OF FMDV IN LANDHI CATTLE COLONY,

Soren Alexandersen



Preliminary results from the collaborative project: Molecular and Field epidemiological studies of FMDV in Landhi Cattle Colony, Pakistan

Research Professor Soren Alexandersen

June 2005

Known major epidemiological factors:

- Market structure
- Religious festival
- Vaccination strategy

Project participants

Soren Alexandersen, Jörn Klein

Manzoor Hussain, Grancarlo Ferrari, Keith Sumpson

Muhammad Afzal

David Paton

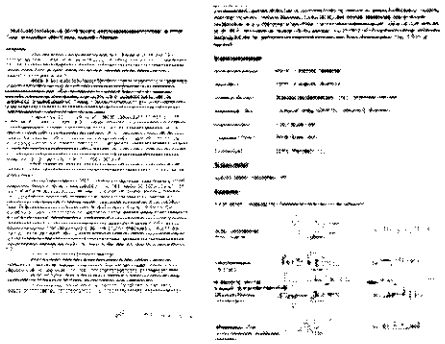
Market structure:

Animals are kept only for one lactation period ! => 10-12 % population shift/month

- Purchase from villages (approx. 30 %)
- Animal markets (approx. 60 %)
- Local purchase (approx. 10 %)

Animals are exposed to long transportation up to twelve hours => bad condition

After the lactation period most of the animals are sold to breeders or for slaughter, only a few are kept by the dairy farmers for re-breeding.



عيد الأضح Eid ul-Azza

Milk supply in Pakistan:

- Milk supply in Pakistani urban areas consist mainly of Dairy colonies in the outskirts of cities
- Milk/Milk products are a major part of traditional Pakistani diet

Landhi Cattle Colony is the largest dairy colony in Pakistan and the largest Buffalo colony in the world (more than 200 000 animals, 95 % = buffalo's)

FMD vaccine practise in Landhi Cattle Colony

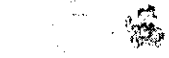
- The majority of commercial dairy farmers use FMD vaccine (both local and imported)
- The usual practise is to vaccinate once with the expensive imported vaccine (mostly Aftovax Merial, France, but also Decivac FMD, Intervet,and/or several (2-3) times with the monovalent-(O)- vaccine produced by FMD research centre in Lahore.
- In addition, vaccines imported from India, China, former Yugoslavia and Spain are sometimes used.

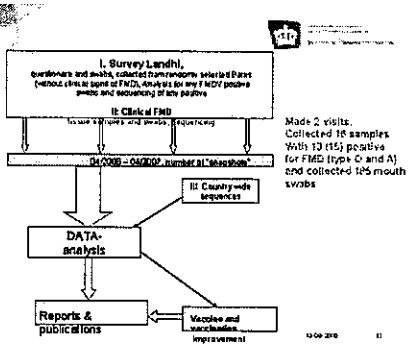
A combination of

„shoe-leather/rubber boots epidemiology"

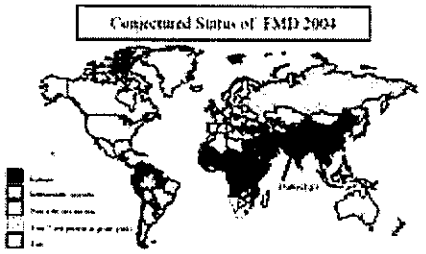
and

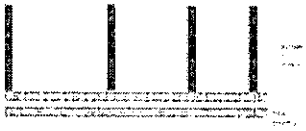
„armchair and molecular epidemiology"

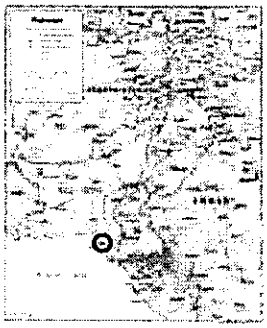


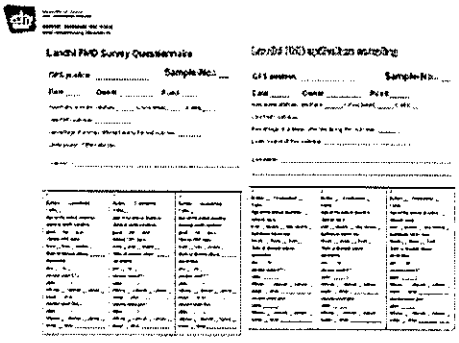


Conjectured Status of FMD 2003

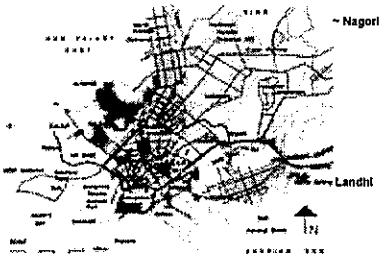




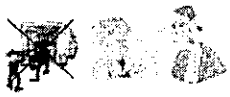




Karachi city districts and Landhi Dairy Colony



Some problems with shipment of samples FROM WRL and consequent (mental) reactions !!



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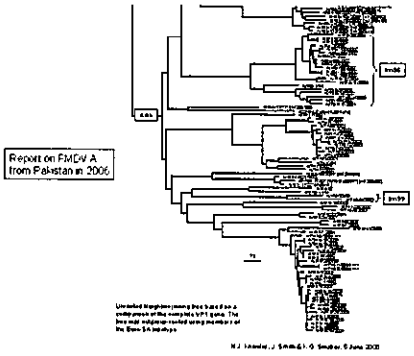
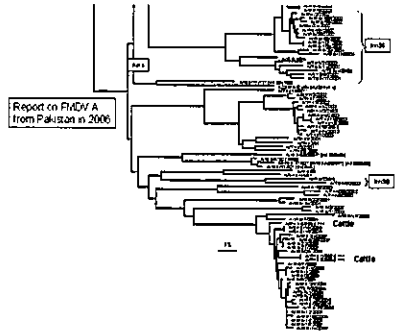
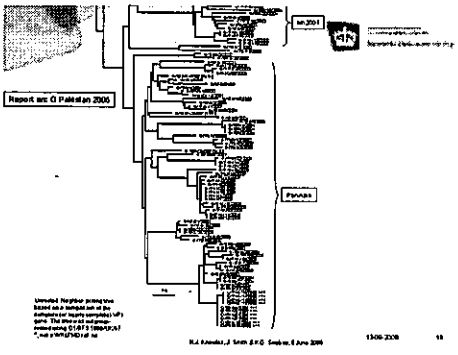


Country	WRL Ref FMD Sample Identification	Virus Isolation	Animal	District Collection	Serotype by ELISA	Serotype by RT-PCR	Final report
PAKISTAN	PAK 1/2006	11	Cattle	31/01/06	A	Positive	A
	PAK 2/2006	12	Buffalo	31/01/06	MVP-	Positive	FMD Virus
	PAK 3/2006	13	Cattle	31/01/06	A	Positive	A
	PAK 4/2006	32	Cattle	31/01/06	A	Positive	A
	PAK 5/2006	33	Cattle	31/01/06	A	Positive	A
	PAK 6/2006	34	Buffalo	31/01/06	O	Positive	O
	PAK 7/2006	35	Buffalo	01/02/06	MVP-	Negative	MVP-
	PAK 8/2006	42	Buffalo	31/01/06	O	Positive	O
	PAK 9/2006	51	Buffalo	31/01/06	O	Positive	O
	PAK 10/2006	52	Buffalo	31/01/06	O	Positive	O
	PAK 11/2006	61	Buffalo	01/02/06	O	Positive	O
	PAK 12/2006	62	Buffalo	01/02/06	O	Positive	O
	PAK 13/2006	71	Cattle	01/02/06	MVP-	Positive	FMD Virus
	PAK 14/2006	72	Cattle	01/02/06	O	Positive	O
	PAK 15/2006	73	Cattle	01/02/06	O	Positive	O
	PAK 16/2006	81	Cattle	31/01/06	O	Positive	O

TUBEV: Test to identify the virus
VETLEIA: FMD V serotype identified following virus isolation on a Bovine cell culture detection ELISA
RT-PCR: Reverse Transcriptase polymerase chain reaction, a specific test for presence of FMD viral genome genetic material
QD: Quantitative
MVP: Non-cell culture, but can grow in cell culture due to non-virulent characteristics of FMD virus





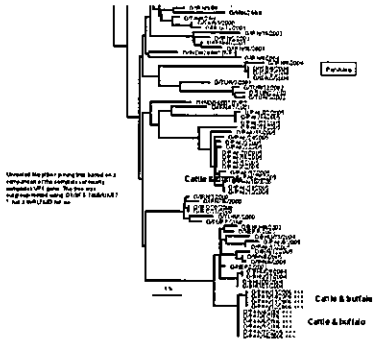
Serotype: A
WRL Ref No: PAK/1/2006
Sender Ref: 1.1
Date collected: 31/01/2006
Species: Cattle
Topotype: Asia
Genotype/strain: none designated

Ten Most Closely Related Viruses

No	Virus name	Accession	No. in compared	No. in isolated	No. of subregion	% Identity	% Difference
1	AF308705	PAK/65/81	878	878	0	100	0
2	AF308717	IRN/1/2001	878	878	0	99.89	1.71
3	AF308718	IRN/2/2001	878	878	0	99.89	1.71
4	AF308719	IRN/3/2001	878	878	0	99.89	1.71
5	AF308720	IRN/4/2001	878	878	0	99.89	1.71
6	AF308721	IRN/5/2001	878	878	0	99.89	1.71
7	AF308722	IRN/6/2001	878	878	0	99.89	1.71
8	AF308723	IRN/7/2001	878	877	0	99.77	1.98
9	AF308724	IRN/8/2001	878	877	0	99.77	1.98
10	AF308725	IRN/9/2001	878	877	1	99.77	1.98

Relationships in Reference Virus Strains

No	Virus name	Accession	No. in compared	No. in isolated	No. of subregion	% Identity	% Difference
1	AF308705	PAK/65/81	878	878	0	100	0
2	AF308717	IRN/1/2001	878	878	0	99.89	1.71
3	AF308718	IRN/2/2001	878	878	0	99.89	1.71
4	AF308719	IRN/3/2001	878	878	0	99.89	1.71
5	AF308720	IRN/4/2001	878	878	0	99.89	1.71
6	AF308721	IRN/5/2001	878	878	0	99.89	1.71
7	AF308722	IRN/6/2001	878	878	0	99.89	1.71
8	AF308723	IRN/7/2001	878	877	0	99.77	1.98
9	AF308724	IRN/8/2001	878	877	0	99.77	1.98
10	AF308725	IRN/9/2001	878	877	1	99.77	1.98



Serotype: A
WRL Ref No: PAK/5/2006
Sender Ref: 3.3
Date collected: 31/01/2006
Species: Cattle

Topotype: Asia
Genotype/strain:
none designated

Ten Most Closely Related Viruses

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	A/PAK/5/2006	EF439518	639	639	0	100	0
2	A/PAK/7/2006	EF439519	639	639	0	100	0
3	A/PAK/12/2006	EF439520	639	639	0	100	0
4	A/PAK/28/2006	EF439521	639	637	0	99.84	0.31
5	A/PAK/6/2006	EF439522	639	637	0	99.84	0.31
6	A/PAK/8/2006	EF439523	639	637	0	99.84	0.31
7	A/PAK/9/2006	EF439524	639	637	0	99.84	0.31
8	A/PAK/26/2006	EF439525	639	637	0	99.84	0.31
9	A/PAK/27/2006	EF439526	639	637	0	99.84	0.31
10	A/PAK/4/2006	EF439527	639	637	0	99.84	0.31

Relationships to Reference Virus Strains

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	A/GER/1/1960	X74851.1	639	548	8	85.45	14.55
2	A/FRANCE/1/1965	X74851.1	639	542	8	84.78	14.62
3	A/FRANCE/1965	X74851.1	639	539	8	84.54	14.86
4	A/FRANCE/2/65	X74851.1	639	537	8	84.03	14.97
5	A/FRANCE/1/1967	X74851.1	639	538	8	84.29	14.73
6	A/FRANCE/1966	X74851.1	639	533	8	83.41	15.84
7	A/FRANCE/1966	X74851.1	639	532	8	83.26	15.83
8	A/FRANCE/1967	X74851.1	639	529	8	82.76	16.81
9	A/ZIMBABWE/1966(A/ZIM/1966)	X74851.1	639	527	8	82.45	17.03
10	A/AFGHANISTAN/1/1979	X74851.1	639	514	8	80.44	19.56

Serotype: O
WRL Ref No: PAK/15/2006
Sender Ref: 7.7
Date collected: 07/04/2006
Species: Cattle

Topotype: ME-SA
Genotype/strain: PanAsia

Ten Most Closely Related Viruses

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	O/PAK/15/2006	EF439542	639	639	0	100	0
2	O/PAK/17/2006	EF439543	639	639	0	100	0
3	O/PAK/18/2006	EF439544	639	639	0	100	0
4	O/PAK/20/2006	EF439545	639	637	0	99.84	0.31
5	O/PAK/21/2006	EF439546	639	637	0	99.84	0.31
6	O/PAK/22/2006	EF439547	639	637	0	99.84	0.31
7	O/PAK/23/2006	EF439548	639	637	0	99.84	0.31
8	O/PAK/24/2006	EF439549	639	637	0	99.84	0.31
9	O/PAK/25/2006	EF439550	639	637	0	99.84	0.31
10	O/HEF/2/2003	AF301119	639	639	0	100	0

Relationships to Reference Virus Strains

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	O/TAW/2/79	Y09540.1	639	601	9	94.05	5.95
2	O/UKG/35/2001 [AF301119]	AF301119	639	572	9	89.53	10.47
3	O/UKG/35/2001 [AF301119]	AF301119	639	570	9	89.2	10.8
4	O/Mahe/2/TUR/96	Y11848.1	639	564	9	88.26	11.74
5	O/TAW/1/1997 [Y09540]	Y09540.1	639	560	9	87.63	12.37
6	O/ETH/2/88	X74851.1	639	559	9	87.48	12.52
7	O/UKG/1/01	AF301119	639	561	9	87.79	12.21
8	O/PAK/5/06	EF439550	639	559	9	87.48	12.52
9	O/HEF/2/2003	AF301119	639	559	9	87.48	12.52
10	O/SKR/1/1998	Y11848.1	639	559	9	87.48	12.52

EPIs taken at visits by Soren Alexandersen in Pakistan

Short summary of results so far:

Samples containing FMDV type A marked in yellow and type O in green

Of the 3 type A samples (all from cattle), two were similar/identical and one slightly different (A PAK/5/2006 in blue text and marked with *).

Of the 10 type O samples, 4 fell in one group (red text and a *) and the other 6 in another slightly different grouping (both found in both cattle and buffalo).

Serotype: O
WRL Ref No: PAK/4/2006
Sender Ref: 3.2
Date collected: 31/01/2006

Species: Cattle

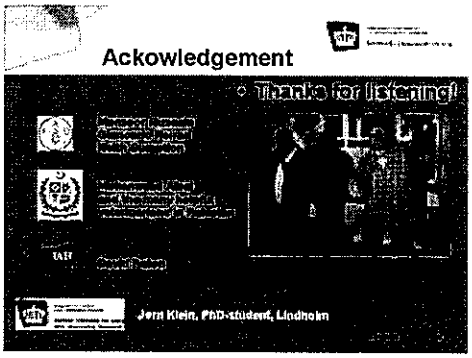
Topotype: ME-SA
Genotype/strain: PanAsia

Ten Most Closely Related Viruses

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	O/PAK/4/2006	EF439528	639	639	0	100	0
2	O/PAK/16/2006	EF439540	639	639	0	100	0
3	O/PAK/29/2006	EF439541	639	639	0	100	0
4	O/PAK/10/2006	EF439529	639	639	0	100	0
5	O/PAK/19/2006	EF439530	639	639	0	100	0
6	O/PAK/11/2006	EF439531	639	637	0	99.84	0.31
7	O/PAK/13/2006	EF439532	639	637	0	99.84	0.31
8	O/PAK/15/2006	EF439533	639	637	0	99.84	0.31
9	O/PAK/14/2006	EF439534	639	637	0	99.84	0.31
10	O/HEF/3/2003	AF301120	639	639	1	99.78	1.24

Relationships to Reference Virus Strains

No	Virus name	Plasmid	No. of compared nts	No. of identical nts	No. of substitutions	% Identity	% Difference
1	O/TAW/2/79	Y09540.1	639	601	9	94.05	5.95
2	O/UKG/35/2001 [AF301119]	AF301119	639	572	9	89.53	10.47
3	O/UKG/35/01* [AF301119]	AF301119	639	570	9	89.2	10.8
4	O/Mahe/2/TUR/96	Y11848.1	639	564	9	88.26	11.74
5	O/TAW/1/1997 [Y09540]	Y09540.1	639	560	9	87.63	12.37
6	O/ETH/2/88	X74851.1	639	559	9	87.48	12.52
7	O/UKG/1/01	AF301119	639	561	9	87.79	12.21
8	O/PAK/5/06	EF439550	639	559	9	87.48	12.52
9	O/HEF/3/2003	AF301120	639	559	9	87.48	12.52
10	O/SKR/1/1998	Y11848.1	639	559	9	87.48	12.52



Rapport de Mission FAO

European Commission (DG-SANCO) under the EC/FAO Agreement on Activites of the EUFMD Commission

Collecte d'échantillons biologiques dans les foyers de Fièvre aphteuse au Niger pour la détermination et la caractérisation des souches virales circulant en Afrique de l'Ouest

(19 novembre - 03 décembre 2005)

Summary (English)
Recommendations (EN and FR versions)
Full Report available from the EUFMD Secretariat

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Dr. F. Geiger, Expert FAO
Projet EUFMD – Téhéran – Iran

Summary
This mission has been undertaken to collect samples from FMD outbreaks in Niger as it is recognised that the Sahalian zone is an enzootic area for FMD in West Africa. These biological samples will be served to characterise virus strain circulating in West Africa.
The mission, from November 19th to December 03rd 2005, lies in the inter-epizootic season of FMD outbreaks according to information collected from farmers and veterinary field staff. One peak of outbreaks is observed during the raining season from June / July to September and the second during the dry fresh season, from December to February. Due to this, few samples are collected. However the success of this mission is in the collection of important field information from farmers and field staff. Indeed, a better understanding of animal movements through the country and from neighbouring countries such as Nigeria, Benin, Burkina-Faso is obtained. FMD is spread from sick animals to naïve one easily at the concentration zones like cattle markets, gathering zones and water sites according to the seasons.
The surveillance made by vet field staff is very weak due to a lack of means to work. In consequence, they have not the real image of the field situation. In contrast, farmers has a good knowledge of FMD and how limiting its diffusion from herd to herd. FMD is one of the major diseases for them and expect an urgent solution to this problem which causes high mortality in the young animal population.
FMD is reported in some cases from sheep but not from goats.
Other diseases reported by farmers are: CBPP, PPR, Pasteurellosis and TBD.
This mission was a success and need to be extended to identified and enzootic countries. Other major diseases will be taken in account.

Programme de tournée
19.11.05 : Abidjan – Niamey
20.11.05 : Niamey – Ingall (nuit à Ingall)
21.11.05 : Tournée à Ingall (nuit à Ingall)
22.11.05 : Départ pour Zinder via Agadez (nuit à Tanout)
23.11.05 : Départ de Tanout pour Zinder – Diffa (nuit à Diffa)
24.11.05 : Diffa – Ngui-gmi (Lac Tchad) (nuit à N'gui-gmi)
25.11.05 : Ngui-gmi - Lac Tchad (nuit à N'gui-gmi)
26.11.05 : Ngui-gmi - Sayam (ferme d'état, nuit à Sayam)
27.11.05 : Sayam – Gouré (nuit à Gouré)
28.11.05 : Gouré – Matameye – Dakoro (nuit à Dakoro)
29.11.05 : Dakoro – Birma N'konni (nuit à Birma-N'konni)
30.11.05 : Birma-N'konni – Gaya (nuit à Gaya)
01.12.05 : Gaya – Ouna- Niamey

02.12.05 : Débriefing à la FAO, au Ministère de l'Elevage.
Total distance parcourue : 5622 kms

Recommandations

Pour le Niger :

Actions immédiates

- La fièvre aphteuse fait partie des 4 maladies (peste bovine, PPR, PPCB et Fa) retenues dans le cadre du projet PACE. L'information et la formation des agents de terrain remontent à 2001. Les ateliers de formation prévus dans le cadre du TCP FMD 2916 n'ont pas été exécutés.

Aussi est il nécessaire et urgent d'organiser des ateliers de formation portant sur la fièvre aphteuse dans 4 régions du pays : Niamey, Agadez (Ingall), Zinder ou Maradi et N'gui-gmi. Au cours de ces ateliers des affiches sur la FA (confectionnées par le TCP 2916 et disponibles à la Direction de la Santé animale) seront distribuées avec des pots de prélèvement contenant du milieu adéquat de transport. Assisteront à ces ateliers, les responsables techniques de l'élevage, les éleveurs, chefs coutumiers.

Ces ateliers seront organisés par le Directeur du Labocel en collaboration avec le Coordonnateur national du TCP. Le Coordonnateur régional du TCP devra participer à l'animation de ces ateliers comme lors de l'atelier de Niamey en 2004.

Ces ateliers devront avoir lieu en janvier / février 2006 pour permettre aux agents d'être outillés pour la collecte d'échantillons en cette saison sèche froide.

- Associer les projets d'appui à l'élevage tels les ONG et Proxel à la collecte des données de terrain.
- Instituer une motivation pour l'agent qui effectue un prélèvement biologique de qualité et accompagné d'une fiche de commémoratifs correctement remplie.
- Continuer d'effectuer des prélèvements biologiques dès qu'un cas de Fa est connu.
- Effectuer des prélèvements sanguins sur les petits ruminants vivant ensemble avec les troupeaux de bovins atteints de Fa.

Actions à moyen terme

- L'élevage étant un secteur de première importance pour le Niger, la santé du cheptel doit être pris en compte de façon réelle. Aussi est-il judicieux d'équiper les postes vétérinaires pour leur permettre d'assurer le service qui leur est demandé.

Pour la sous-région :

- Organiser le même type de mission dans les zones de transhumance du Burkina-Faso, Bénin et inclure le Nigeria. Pour cela le Coordonnateur régional devra prendre attache avec les différents coordonnateurs nationaux pour l'organisation de ces missions de terrain. Seront concernés par ces missions le Coordonnateur régional, l'Expert FAO et le Laboratoire vétérinaire en collaboration avec le Coordonnateur national. Ces missions de terrain pourraient servir à recueillir d'autres données d'importance en santé animale du pays visité.
- Créer un pôle d'expertise en Afrique de l'Ouest appuyé sur le Laboratoire régional de Bingerville (Côte-d'Ivoire) afin de centraliser les données sur la fièvre aphteuse et avec des coordonnateurs nationaux à même d'animer le réseau.

  - **Un projet d'Observatoire régional de la Fièvre aphteuse en Afrique de l'Ouest**

Les éléments collectés au cours de cette mission permettent d'affirmer que la Fièvre aphteuse est endémique dans la bande sahélo-soudanienne et que les mouvements d'animaux liés à l'agro-pastoralisme sont les facteurs de dissémination de la maladie.
Compte tenu des conséquences économiques directes et indirectes que cette maladie a sur l'économie villageoise, une surveillance active de cette maladie permettrait d'envisager la mise à disposition des éleveurs et des propriétaires de bœufs de traits qui le souhaitent le vaccin permettant d'éviter la maladie.

S'appuyant sur les réseaux épidémiologiques existants (programme Pace, projets thématiques des ONG, etc....) et un réseau de laboratoire nationaux mis à niveau, un projet de réseau régional de surveillance de la Fièvre aphteuse pourrait permettre de suivre l'évolution de la maladie et des souches circulant dans la sous-région.

La participation du Nigeria à ce projet est à mon avis une des conditions de réussite de ce projet.
Une réunion bilan du TCP / RAF / 2916, avec invitation du Nigeria, serait sans doute l'occasion de présenter ce projet d'Observatoire régional de surveillance de la Fièvre aphteuse.

- Rédiger et présenter un projet pour financement par les bailleurs de fonds pour le contrôle de la fièvre aphteuse en Afrique de l'Ouest avant la fin de l'année 2006.

- **La recherche de bailleurs internationaux du projet d'Observatoire régional de la Fièvre aphteuse en Afrique de l'Ouest**

Un projet argumenté économiquement devrait être présenté, avec le soutien des pays participants et des organisations internationales (OIE et FAO), aux instances internationales susceptibles d'être intéressées par le soutien financier d'un tel projet .

Recommendations

For Niger :

Immediate Actions

- FMD is one of the four diseases retained in the PACE project to be involved in the surveillance along with Rinderpest, CBPP and PPR. Workshop on these diseases has been organised in 2001 and nothing was implemented during the FMD TC project.

So it is urgent to organise workshops throughout the country : Niamey, Agadez (Ingall), Zinder / Maradi and N'gui-gmi.
CVO, field staff, farmers and Tribal organisation will attend these workshops.
Materiel for samples collection and posters will be distributed.
Workshops will be organised by the head of the vet lab (Labocel) in collaboration the head of Vet Services.
The regional coordinator will be involved
The programmme should be start early in 2006: January / February.

- ONG and other projects involved in livestock development will be concerned by this surveillance of FMD.
- Field staff will be motivated for the collection of good specimens.
- Samples collection has to be done on a regular basis.
- Serum samples from small ruminants will be taken to study the role of these species in FMD disease.

Middle term Actions

- Field staff have to be well equipped for efficient activities.

For West African region :

- A similar mission will be undertaken in other countries: Burkina-Faso, Benin and Nigeria. For this purpose the regional Coordinator will liaise with appropriate persons in these countries for the organisation of these missions.
  These missions will involve the regional Coordinator, FAO Expert, and The national Vet Laboratory (in collaboration with the national FMD Coordinator).
  During these missions other major diseases could be taken in account.

- Establishment of a regional centre for FMD surveillance lied on the regional lab in Bingerville in connection with national coordinators.

- New regional project of FMD in West / central Africa to be presented for funding by end of 2006.

Remerciements

Nous remercions les Autorités du Niger qui ont permis d'effecteur cette mission dans de très bonnes conditions.
Nous remercions les Autorités locales qui nous ont accueillis et nous ont aidés à accomplir cette mission.
Nous remercions la Représentation locale de la FAO pour son assistance.

Annexe

Les visites réalisées ont été les suivantes :

REGION	DEPARTEMENT	LIEU	Personne rencontrées
AGADEZ	Tahoua	Antenne de Tahoua	Dr Mati MAHAMAN
	Tchirozerine	Poste d'Ingall	Sahiri SEIDOU
		2 Puits Touaregs	
		1 Puit Peuhl M'Bororo	

		Village d'Amataktal	Président des éleveurs
	Agadez	DRRA[8]	M. Moussa SALE
	Tchirozerine	Poste d'Aderbissinat	M. Amza NAKAKA
ZINDER	Tanout	DDRA	Responsable Santé animale
	Zinder	DRRA	Dr Jonathan ABDOU, adjoint Mallan OUSSEIENI, responsable Santé animale
DIFFA	Diffa	DRRA	Adama MANI, Directeur Moussa ISSA, responsable Santé animale
	N'Guigmi	DDRA	Habou ISSA
		Chefferie	Ihoussa MAIMANGA
	Doro (village de pêcheur)	Chef de village, Président de la coopérative d'éleveurs	Yacouba MAIMANGA
	Fourdi (village d'éleveurs)	Ranch d'Etat de Sayam	Aboubakar SALISSOU
ZINDER	Matameye	DDRA	Issa GARBA, Directeur
MARADI	Dakoro	DDRA	Aboubakar HASSIMI, Adjoint
		Projet PROXEL	Methié FAYE, Chef de projet Dr Issouf HAMIDOU, vétérinaire sanitaire
		Eleveur	Fodi BAMMO
DOSSO	Dosso	DRRA	Aba BAOUA, responsable Santé animale
	Gaya	DDRA	Abdullai DJIBO, Directeur Abdullai BOUKARI, responsable Santé animale
	Ouna	Poste vétérinaire	Boubakar BOUREIMA

[8] Direction régionale des ressources animales

Appendix 16

IRAN PROJECT PROGRESS REPORT

Project Symbol	Title			Reporting period
MTF/INT/003/EEC	Central Asia FMD Surveillance Centre Project (Combating Foot-and-mouth Disease through enhanced and co-coordinated surveillance activities)			October 2005 / April 2006
Operating Unit	**Lead Technical Unit**	**EOD- date**	**NTE-date**	**Total Project Budget**
A.G.A.H	EUFMD Secretary			Phase 1: US$ 761,000

Progress and Outputs

Summary Immediate Objectives

- To implement the project in Iran according to the rewritten priorities activities and work plan (*cf. previous Project Progress Report, priorities activities and work-plan*) in the 3 pilot areas (7 provinces)

Description of progress towards achievement of Immediate Objectives

- **Project implementation proposals** accepted and Project National Coordinator nominated by the new Head of Iran Veterinary Organisation the 12th of November 2005
- Nomination of **Project National Coordinator** on

Outputs produced during reporting period as outlined in Plan of Operations / Work Plan, under all headings and sub-headings.

- Setting up the **FMD Task Force** at national level and regional level in the 7 pilot provinces

Inputs

1. **List National & International Professional staff assigned to the project during the reporting period**

National		**International**	
Name	Function	Name	Function
Dr. Charkhkar	Project National Coordinator	Dr. Francis Geiger	International Coordinator
Dr. Otarod	Epidemiological Unit responsible,	Dr Donal Sammin	International Consultant for WT1 (Workshop on FMD Active Surveillance and Outbreak investigation)
Dr. Wishte	FMD Task Force Manager		
Dr. Abdullahi	FMD Task Force Co-Manager		
Dr Rassouli Beirami	FMD vaccination campaign resp.		
Dr. Jamdar	FMD Task Force National team		
Dr. Qodsian	Central Veterinary Laboratory (CVL) Director, accidentally dead in November 2005		
Dr. Nazem Shirazi			
Dr. Sedighi Moghadam	New CVL Director		
M. Reza Hassan Zadeh	CVL Molecular Biology Department responsible		
	CVL Serology Department responsible		
	CVL Virology Department responsible		

2. **Equipment received during the reporting period**

not equipment ordered during this period

3. **Training activities during the reporting period, viz: fellowships, study tours, field days, local workshops. Pls list how many trainees (male/female) were involved in each activity.**

During this period, one **workshop** on **active surveillance and outbreak investigation, working days in the field** in the **pilot areas**, participation to a **regional meeting** and organisation of a **training session** in World Reference Laboratory have been the main issues

3.1 Local workshop on Active Surveillance and FMD outbreak investigation (agenda_final_WT1)

PROVINCE	NAME	RESPONSABILITY
QAZVIN	Esam NADJAR	FMD Task Force Regional Manager
QOM	S. Mohammad BARANI	FMD Task Force Regional Manager
MARKAZY	Abbas GANJI	FMD Task Force Regional Manager
WEST AZERBAIJAN	Ali CHARMDOOZI	FMD Task Force Regional Manager
CENTRAL KHORASAN	Ali MOGHADAM JAFARI	FMD Task Force Regional Manager
SOUTH KHORASAN	Mohammad SOHRABI	FMD Task Force Regional Manager
SOUTH KHORASAN	Saeed ZIBAEI	FMD Task Force Regional Team
NORTH KHORASAN	Ali ZAREI TOUSI	FMD Task Force Regional Manager

Private sector representatives

PROVINCE	NAME	RESPONSABILITY
QAZVIN	Davood NASERI	FMD Task Force Regional Team
CENTRAL KHORASAN	Ahmad LANGARI FERDOWSI	FMD Task Force Regional Team

IVO Headquarter representatives

DEPARTMENT	NAME	RESPONSABILITY
ANIMAL HEALTH DEPT	Hassan WISHTE	FMD Task Force National Team
ANIMAL HEALTH DEPT Epidemiological Unit	Vahid OTAROD	FMD Task Force National Manager
ANIMAL HEALTH DEPT	Darab ABDOLLAHI	FMD Task Force National Team
ANIMAL HEALTH DEPT	Morad MORADI	Observer
ANIMAL HEALTH DEPT	Naser RASOULI BEIRAMI	FMD Task Force National Team
TRAINING DEPT	Samad BAKHTIARI	FMD Task Force National Team
CVL	Reza HASSAN ZADEH	FMD Task Force National Team
IVO Consultant	Ebrahim MOLAYEMI	Observer

3.2 Meeting of the Executive Committee (meeting-EC_051205)

DATE	PARTICIPANTS	DUTIES
25/12/2005	Dr Charkhkar, Project National Coordinator Representative of Budget, Animal Health	Presentation of the project to the new Executive Committee chaired by the

	Department, International Affairs Department, Training and Extension Department	Project National Coordinator, Dr. Charkhkar. Presentation and Validation of the Project Organisation, the pilot areas, priorities and the6 months work-plan

3.2 Working in the field in the pilot areas (Qazvin-report_060412)

PROVINCE	PARTICIPANTS	DUTIES
QAZVIN	Dr. Wishte, FMD Task Force National Manager p.i Dr Safari, Head of the Province Dr Nadjar, FMD Task Force Manager Dr Chokri, FMD Task Force Dr Gholampour Agdami - Buinzara District - FMD Task Force	- To define High Risk Areas (HRA) according to FMD situation in the province - To set up a specific network including private sector for FMD active surveillance - To plan FMD Surveillance program in HRA
WEST AZERBAIJAN	Dr. Rassouli, FMD Task Force National Team Dr, Head of the Province Dr , Animal Health Deputy Dr Charmdoozi, FMD Task Force Manager Dr, FMD Task Force	- To define High Risk Areas (HRA) according to FMD situation in the province - To set up a specific network including private sector for FMD active surveillance - To plan FMD Surveillance program in HRA

3.3 Participation to a regional meeting (BTOR_Tashkent_060405)

MEETING	PARTICIPANTS	DUTIES
Taskent, Ouzbekistan GFTS/INT/907/ITA 29/30 March 2006	Dr. Geiger Francis, International Coordinator Dr. Wishte, FMD Task Force National Manager p.i	- To present Iran GIS Animal Disease System (GISVET) - To present FMD and AI surveillance systems in Iran - To propose to link GFTS/INT/907/ITA Project and MTF/INT/003/EEC project through common seminars, visit tours, workshops, and training sessions.

3.4 Meeting about new subtype A (meeting_IR_NRIGEB_060419)

PARTICIPANTS	ITEMS
Dr Mahravani - Razi Institute, Head of FMD Department Dr Ghorasi – National Research Institute for Genetic Engineering and Biotechnology (NRIGEB)	To share data concerning new type A isolated in Iran To evaluate and discuss about scientific collaboration between Razi Institute, National Research Institute for Genetic Engineering and Biotechnology and IVO Central Veterinary Laboratory in the framework of the project

3.5 Organising the first training in WRL (Training_WRL_2006_final)

PREVISIONAL DATE	PARTICIPANTS	DUTIES
15/26 May 2006	M. Reza Hassan Zadeh, Central Veterinary Laboratory Dr. Ali Reza Honari, Mashad Regional Laboratory	This training course, laboratory-based, provided: 1) An overview of the different virological and serological tests used at IAH-Pirbright for the diagnosis of foot-and-mouth disease, including quality assurance requirements. 2) Hands-on instruction and practice in the tests of particular interest to each participant. Dr Nigel Ferris was the person responsible for the training

Problems encountered and actions taken or requested to resolve them

Main problems encountered during this period were:

1. Changing of Iran Veterinary Organisation (IVO) Head and Management Staff in October 2005
2. Delay to nominate the Project National Coordinator
3. HPAI cases on wild birds in February 2006, with high priority of HPAI in IVO till end of April
4. Lack of regular and easy access to data either in Surveillance Department and Central Veterinary Laboratory
5. Lack of presence and investment of the Project National Coordinator
6. Lack of decision concerning equipment and materials order
7. No active surveillance report coming from pilot areas analysis

Main actions taken during this period to resolve them:

1. Meeting with the new Head of Iran Veterinary Organisation to present the project; objectives, implementation proposals in order to obtain project validation and approval
2. Meetings with the new deputy for Animal Health to present the project; objectives, implementation proposals and to obtain nomination of Project National Coordinator

1+2. To remember importance of nomination of Project National Coordinator to implement and conduct the project

4. To propose an FMD Task Force organisation and to try to work with them on regular basis
5. To motivate FMD Task Force team through meeting in Tehran, never less the Project National Coordinator didn't attend to this meeting
6. To ask decision-maker to decide about equipment order
7. To ask the FMD Task Force Manager to set up pilot areas report analysis

Work plan and expected outputs for the next reporting period

1. Work plan - phase 1 :months 4-5-6-7-8-9

*** Field evaluation, adaptation and review of FMD investigation Forms and Guidelines in Pilot studies areas**

Assimilation and evaluation of information and lessons learnt from active surveillance (for national and provincial level)

* **Workshop on rapid epidemiological appraisal - WT 2**
Production of initial risk map for animal movement

* **Attachment for FMDV typing - T 2**
to become fully familiar and proficient in all aspects of work on the study of the molecular epidemiology of FMD

* **Training in Vaccine quality control - T 1.3**

Competency to set up potency test for FMD vaccine

2. Outputs for the next reporting period are:

2.1 – FMD Surveillance

- To analyse active surveillance reports coming from the 3 pilot areas (high risk areas)
- To connect Central Veterinary Laboratory to GISVET system in order to register FMDV results in GIS system
- To produce risk map according to the active surveillance in the pilot areas

2.2 – FMDV diagnosis

- To strengthen capacity for FMDV diagnosis and sub-typing in Central Veterinary Laboratory after training period in WRL
- To support Laboratory equipment and materials according to the needs of the trainees

Reports

Please list all reports, other than progress reports, but including consultant's reports, finalised by the project during the reporting period only. Indicate for each of those:
- Recommended inclusion in FAO's computerised documentation system as it contains data/info suitable for future use.
- It has been restricted by the Government as it contains confidential information.
- It has been distributed, giving date if applicable. If not done so, pls send 4 copies to the Responsible Operational Unit.

1. Meeting report-Dr Hassani (12/11/2005)
2. Executive Committee Meeting report (05/12/2005)

3.1 Workshop on FMD active surveillance and outbreak investigation - agenda (28/01/2006)
3.2 WS Conclusions and recommendations (19/02/2006)
3.3 Project implementation recommendations (19/02/2006)

4. WRL response for training sessions (14/02/2006)
5. Meetings report-02/2006 (28/02/2006)
6. Dispatch note to EUFMD secretary (11/03/2006)
7. BTOR from Tashkent Regional Meeting (06/04/2006)
8. Qazvin Province report (12/04/2006)
9. Meeting report on new subtype A (19/04/2006)
10. New subtype A in Razi Institute (24/04/2006)
11. FMD Task Force meeting report (24/04/2006)

Reporting Officer	
Name: GEIGER Francis	Date: 05/01/2007
Title: International Coordinator	Signature:

Appendix 17

FAO EUFMD RG WORKPLAN 2005-2007

Theme		Task (*blue italic = associated task*)	Who	Draft/frequency	Completion
1. Global Surveillance	1.1	Global surveillance maps/models	Liaison person (**DP**) to actions between CA, FAO and OIE	Yearly progress report	Ongoing
	1.2	*Establish regular risk reporting – virus types circulating in Iran, Pakistan, Afghan...*	*FG, MH, DP (link)*	*3 monthly*	*Should be ongoing*
	1.3	Improving delivery of viruses from risk areas (WG1)	**Secretariat, WRL**	Yearly report on gaps/progress	Ongoing
	1.4	*Vaccine strain matching*	*Contact point: DP CRL, CA,OIE/FAO network of ref labs, ImproCon project*		
	1.5	Priority antigens for the European Ag banks	**WRL**	6 months Every 2 years	Ongoing
	1.6	Minimum size of vaccine stocks in EU vaccine banks – position paper	**AD**, (Paul Barnett), KS, AEF	Outline Progress report 2006	2007 (pre-General Session)
	1.7	Type C vaccination/eradication position paper	**KS**, DP, KDC, SoA (+FAO colleagues)	Draft1 – January	Open Session - 2006
2. Prevention		Strategy for prevention of FMD entry into Europe – group should review risks and interventions	**FM/MB**, AEF, (KS)	2006 – progress report	2007 (April)
3. Sero-monitoring		Design sero-monitoring in vaccination zones – Thrace and Trans-Caucasus - refine, re-design - support future official status (Thrace)	**MB**, KDC, DS, SiA, MG, (CP)	by Feb-2006. Results – Open Session	Ongoing
4. EQA FMD Diagnostics		Establish EQA support for 2006– virus detection and serology (inc. clear demarcation of funding under CRL and FAO support)	**DP**, KDC, HY, GG, BH	Meet to co-ordinate with CRL. Agreement/contract – end Nov	Open Session (ongoing)
5. PVS		Post vaccination surveillance – Position papers guidelines * link to OIE ad hoc groups - Test/optimise guidelines through simulation at workshop (using selected scenarios)	**KDC***, DP*, AD, EB*, DS, MG, AEF* **Secretariat**	 Spring 2006 WS	end 2005 OS 2006

		- Complete analysis on sheep and pigs, buffalo	GG, KDC, DS	OS 2006	
6. DSS		Decision support systems – develop position paper on validity, applicability, gaps	**Secretariat** (links also with CA)	OS 2006	
7. Biosecurity		Biosecurity guidelines – follow up required: - paper should be updated by paper recommending updates covering other situations - review gaps between standards of FAO and OIE	**BH**, SoA, HY, AEF	First report – end 2005-	OS 2006
8. Virus inactivation		Inactivation studies	**SoA**, MG, AD, SiA (IAH-Don King, MB)	interim Nov 2005 OS 2006	
9. Pen-side test		Pen-side tests position paper (prev WG13)	**DS**, HY, BH, MB, (Naci Bulut, Nigel Ferris)		OS 2006
10. LCP		Laboratory Contingency Plans	**Secretariat** (link to CA - Tony Garland)	Send guidelines from Cordoba around immediately	
		Scaling up diagnostic capacity (prev WG11): Workshop on upscaling serology –only interesting for eastern European countries, particularly that are not candidate countries Need information on capacity of laboratories (needed for EUFMD – Executive Com)	**Secretariat, GG, CA**	CA will send around as Manual (check timetable-end 2007)	Survey by April 2006 – to include LCPs and EQA, existing capacity.
11. Diagn. Reagent Bank		Diagnostic reagent banks (prev WG10): - clear recommendation needed; update position paper with latest RG paper so this could be used in tender	**BH**, AD, EB, AEF		Spring 2006
12. Potency test		Potency test evaluation (Turkey) - *FMD_ImproCon* - Position paper on potency tests in pigs - do we require vaccines to be tested in pigs, and are there new alternatives? *link to China – *Update monitoring vaccination campaigns (Chania paper) and Workshop on vaccine QA (OIE/EP) – in West Asia*	Link person (SiA, KDC) ***AD, BH, SoA, AEF, (Paul Barnett*)***	OS 2006	
13. Sample transport		Sample transport guidelines – update text; include new options	BH (Nigel Ferris) (OIE –Jim Pearson)	Update Vilmos P paper for 2005 report	1/12/05
14. Training		*Training /knowledge management*	*Secretariat*		

15. Meeting		Open meeting Israel 17-20/10/2006	**HY, Secretariat** KDC, AD, DP	by end Novembe r 2005	
16. Meeting		Closed meeting (October 2007) (Netherlands, Italy,....)	**Secretariat**		

SiA: Sinan Aktas; SoA: Soren Alexanderson; EB: Emiliana Brocchi; MB: Mark Bronsvoort; KDC: Kris De Clercq; AD: Aldo Dekker; GG: Georgi Georgev; MG: Matthias Greiner; BH: Bernd Haas; FM: François Moutou; DS: Donal Sammin; HY: Hagai Yadin; DP: David Paton; KS: Keith Sumption; CP: Carsten Pötzsch; AEF: Alf-Eckbert Füssel; FG: Francis Geiger; MH: Manzoor Hussein; EC: Erika Carlsson; WRL: World Reference Laboratory; CRL: European Community Reference Laboratory.

CA = Co-ordination Action – FMD and CSF laboratories (DG-Res).

WORKSHOP ON THE APPLICATION OF VALIDATED FOOT AND MOUTH DISEASE DIVA TESTS IN SUPPORT OF A VACCINATE TO LIVE STRATEGY FOR EUROPE

Kris De Clercq, Nesya Goris, David Paton, Keith Sumption
VAR Ukkel Belgium, FMD WRL Pirbright UK, FAO EUFMD

Workshop on the Application of validated foot-and-mouth-disease DIVA tests in support of a vaccinate-to-live strategy for Europe

Kris De Clercq, Nesya Goris, David Paton, Keith Sumption
VAR, Ukkel, Belgium
FMD WRL, Pirbright, UK
FAO EUFMD

1

Need for DIVA test validation

- FMD Events in 2001
- Changes to OIE Terrestrial Animal Health Code and to EU Directive on Control of FMD (2003/85/EC)
- Purpose of DIVA testing
  - Post-vaccinal demonstration of freedom from
    - Virus circulation
    - Carriers

2

Non-Structural Protein (NSP) Serology

- Validation difficulty
  - To check specificity – need sera from vaccinated but not infected animals
  - To check sensitivity – need sera from vaccinated and infected animals

3

Sensitivity and Specificity of tests

- NSP antibody development depends on extent of virus replication
- Single shot of European vaccine does not affect specificity
- Best data available for cattle
  - Se, Sp, Covariance, Test combinations

5

Herd-based Sensitivity and Specificity

Test System and sensitivity/specificity*	Minimum herd size	Outcomes for different herd sizes†	Herd Size					
			10	30	60	100	200	400
Ced/Ced retest	91	Sample size	–	–	–	93	139	145
Se = 81.8%		% false positive herds	–	–	–	3.9	2.3	3
Sp = 99.2%		Cut-point	–	–	–	2	3	3
Ced/Ced retest/ Svanova confirmation	51	Sample size	–	–	57	87	77	82
Se = 66.7%		% false positive herds	–	–	0.6	0.7	0.8	0.8
Sp = 99.99%		Cut-point	–	–	0	0	0	0
Ced/Ced retest/ Prebang RT-PCR confirmation	51	Sample size	–	–	57	87	77	82
Se = 87.1%		% false positive herds	–	–	0	0	0	0
Sp = 100%		Cut-point	–	–	0	0	0	0

6

Difficulties with NSP-tests

- Cannot prove absence of infection – use of design prevalence
- Finding of any positives invalidates freedom
- Need to classify herds with seroreactors
- Free from virus circulation?
- Free from carriers ?
- Herd based sensitivity and specificity
  - Sensitivity problems in small herds
  - Specificity problems give rise to difficulty in classifying herds

7

NSP Test validation

- Comparative testing of 6 NSP-ELISAs at Brescia workshop
- Coordination: EU FMD_Improcon, EUFMD and OIE Ad Hoc Group
- Sera from naïve European cattle, sheep and pigs
- Sera from animals vaccinated and/or infected experimentally to study vaccine efficacy
- Field sera from endemic regions
  - Zimbabwe, Hong Kong, Israel, Turkey, South America

4

Workshop on Application of NSP-tests

Objectives

- (1) design and implementation of a serosurvey: (a) to detect infected herds/flocks or (b) to prove freedom from infection
- (2) how to interpret and follow-up seropositive animals and/or herds/flocks
- (3) how laboratory test results can be used for rational decision-making
- (4) to identify the resources required to undertake the preferred strategy

8

Workshop on Application of NSP-tests

Participants

- (1) Decision-makers: CVOs, heads of NDCCs (National Disease Crisis Centres) and others
- (2) Technical: laboratory-based experts and veterinary epidemiologists (National Expert groups)
- (3) Representatives of DG-SANCO, FAO and OIE

9

Workshop on Application of NSP-tests

Output

- report which will assist the organisers to finalise guidelines for specific epidemiological situation.

Method

- Participants will be divided in different group and each group will receive a different outbreak situation. A serosuvey has to be established for each situation. Results will be discussed and will be the basis for a joined proposal for European post-vaccination guidelines.

10

Appendix 19

Open Session of the Research Group of the European Commission for the Control of Foot-and-Mouth Disease (EUFMD)
Eilat, Israel - 16-20 October 2006

International Control of Foot-and-Mouth Disease:

Tools, trends and perspectives

Preliminary Scientific Programme

1. Control of FMD
   1.1. Risk analysis
   1.2. Contingency Planning and the importance of simulation exercises
   1.3. Trade in animals and animal products
   - Subclinically infected animals and carriers: the nightmare for international trade
   - Trade economics and their influence on disease control

2. Epidemiology
   2.1. Molecular epidemiology
   2.2. Virus transmission: the art of understanding FMD spread

3. Surveillance: virus prevalence or freedom of disease

4. Vaccines
   4.1. Vaccine development
   4.2. Vaccine production and strain selection
   4.3. Vaccine control: validation, QA/QC, alternatives to potency testing
   4.4. Vaccine application and alternatives to vaccines

5. Diagnostics
   5.1. DIVA tests: development, validation and their application
   5.2. Confidence in results: QA/QC – Ringtests

6. Pathogenesis
   6.1. Virus host interaction
   - Role of IFN and other cytokines
   - Role of virus variants (porcinophylic viruses)
   6.2. Pathogenesis: the missing links

7. Others

STATEMENT 1

MTF/INT/011/MUL - TF number 904200

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

Financial Report as at 31 May 2006

	US$	US$	Eur	Eur
Balance as at 1 January 2006		102,044		84,492
Interest received	1,866		1,545	
Contributions from member countries (As per statement 2)	264,480	266,346	218,989	220,534
Expenditure				
Commission Secretary	73,493		60,852	
Consultant	3,500		2,898	
Admin. Support Personnel	36,301		30,057	
Contracts	0		0	
Duty Travel	-1,181		-978	
General Operating Expenses	0		0	
Expendable Equipment	1,945		1,610	
Non-Expendable Equipment	0		0	
Total Expenditure		(114,058)		(94,440)
Balance as at 31 May 2006		254,332		210,587
Balance restated at UN Exchange rate of 31 May 2006				199,396

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 31 May 2006
(expressed in US$)

ORACLE CODE: TF-AGADD-TFAA970089122

Member Governments	Outstanding 31/12/2005	Contribution due for 2006	Received up to 31/05/2006	Outstanding 31/05/2006
ALBANIA	0.00	3,900.00	3,879.71	20.29
AUSTRIA	0.00	11,960.00	11,948.04	11.96
BELGIUM	0.00	19,890.00	0.00	19,890.00
BULGARIA	0.00	11,960.00	11,947.11	12.89
CYPRUS	0.00	3,900.00	0.00	3,900.00
CROATIA	2,600.00	3,900.00	0.00	6,500.00
CZECH REPUBLIC	0.00	11,960.00	11,947.34	12.66
DENMARK	0.00	19,890.00	19,890.00	0.00
FINLAND	0.00	11,960.00	11,960.00	0.00
FRANCE	0.00	39,650.00	39,650.00	0.00
GERMANY	0.00	39,650.00	39,650.00	0.00
GREECE	0.00	11,960.00	0.00	11,960.00
HUNGARY	-9,200.00	11,960.00	0.00	2,760.00
ICELAND	0.00	3,900.00	0.00	3,900.00
IRELAND	0.00	11,960.00	11,938.06	21.94
ISRAEL	0.00	3,900.00	0.00	3,900.00
ITALY	-5,108.77	39,650.00	0.00	34,541.23
LITHUANIA	0.00	3,900.00	3,883.77	16.23
LUXEMBOURG	15.14	3,900.00	3,883.86	31.28
MACEDONIA	5,600.00	3,900.00	0.00	9,500.00
MALTA	0.00	3,900.00	3,892.87	7.13
NETHERLANDS	0.00	19,890.00	19,882.00	8.00
NORWAY	0.00	11,960.00	0.00	11,960.00
POLAND	0.00	19,890.00	19,890.00	0.00
PORTUGAL	17,890.15	11,960.00	0.00	29,850.15
ROMANIA	15,300.00	19,890.00	19,890.00	15,300.00
SERBIA and MONTENEGRO (ex YUG.)	18,400.00	11,960.00	30,347.00	13.00
SLOVENIA	0.00	3,900.00	0.00	3,900.00
SPAIN	0.00	19,890.00	0.00	19,890.00
SWEDEN	0.00	19,890.00	0.00	19,890.00
SWITZERLAND	0.00	19,890.00	0.00	19,890.00
TURKEY	0.00	19,890.00	0.00	19,890.00
UNITED KINGDOM	0.00	39,650.00	0.00	39,650.00
YUGOSLAVIA a/	0.00	0.00	0.00	0.00
TOTALS	**45,496.52**	**496,210.00**	**264,479.76**	**277,226.76**

a/ The arrears of the former Socialist Federal Republic of Yugoslavia are abolished in accordance with the resolution of the 71st Executive Committee.

STATEMENT 3

MTF/INT/004/MUL - TF number 909700

FOOT AND MOUTH DESEASE - EMERGENCY AID PROGRAMME

Financial Report as at 31 May 2006

	US$	US$	Eur	Eur
Balance as at 1 January 2006		42,238		34,973
Interest received		487		403
Expenditure				
Consultancy	0		0	
Duty travel	0		0	
Expendable Procurement	0		0	
Support Costs	0		0	
Total expenditure		0		0
Balance as at 31 May 2006		42,725		35,376
Balance restated at UN Exchange rate of 31 May 2006				33,496

STATEMENT 4

MTF/INT/003/EEC - TF number 911100

FOOT AND MOUTH DISEASE

Financial Report as at 31 May 2006

	US$	US$	Eur	Eur
Balance as at 1 January 2006		1,619,045		1,340,569
Interest received	20,542		17,009	
Contribution received	0		0	
		20,542		17,009
Expenditure				
Consultancy	-		0	
Duty Travel	16,951		14,035	
Training	8,365		6,926	
General Operating Expenses	1,716		1,421	

Appendix 21

LIST OF PARTICIPANTS

73rd Session of the Executive Committee of the European Commission for the Control of Foot-and-Mouth Disease
Istanbul/Turkey
15 & 16 June 2006

Executive Committee

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