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PARIS, FRANCE
26/27 Sept. 16

EuFMD | EXECUTIVE COMMITTEE REPORT

92nd Executive Committee EuFMD

26-27 September 2016
ANSES, Maisons-Alfort, France

Draft Agenda

Monday, 26 September 2016			
13.30	1	Welcome & Adoption of the Agenda	J-L Angot
	2	Report on EuFMD activities since the 91st session	EuFMD Secretary
	3	FMD situation - Global and Regional	D. King, WRL
		European FMD Reference centres activities and collaboration – example of ANSES	S. Zientara, ANSES
Break			
	4	Update and questions arising from implementation of the workplan	EuFMD Secretary
		Pillar I update, specific issues: - Future Training course developments - Self-assessment of contingency plans - Balkans component (1.4)	M. Hovari
Tuesday, 27 September 2016			
8.30	5	Pillar II: progress of regional activities	EuFMD Secretary
		Situation in Turkey	N.Pakdil
		Co-operation in the Caucasus region; simulation exercise and follow up	M. Hovari/G.Ismayilova
		REMESA	JL Angot/K.Ouali
	6	Pillar III programme and Items proposed by Gf-TADS Partners	FAO/OIE
		Summary of Pillar III support actions	EuFMD
		Report of FMD-WG, GF-TADS, including regional roadmaps	WG rapporteur
Break			
	7	Standing Technical Committee (STC) Report	E. Ryan
		Open Session Paper on issues relating to emergency vaccination	
		Biocontainment of FMDV	
		Open Session 2016	
	8	Administrative and Financial	EuFMD Secretary
13.00	**Lunch break**		
1400	9	Co-ordination –future meetings Any other business	EuFMD
		[Relevant lessons learnt from FMD in high density livestock areas – observations from Japan (if time allows)]	*Keith Sumption*
17.30		Closure of the meeting	

Our hosts have kindly organized a visit to the FMD reference laboratory at 17hrs on Monday, followed by dinner. On the Tuesday afternoon, around 15hrs, they have organized a visit to the Visit to Fragonard museum-Vet school (Ecole nationale vétérinaire d'Alfort – EnvA).

Report on Activities of the EuFMD Secretariat March 2016 – October 2016

Tables

Report on Activities of the Secretariat – March 2016 – October 2016

Summary

1. The 91st Session of the Executive Committee was held at The Hague, in The Netherlands in March 2016, and the Report has been finalized, circulated for comment and published online. The recommendations and conclusions are given in **Appendix 1**.

2. The major FMD risk events of the previous six-month period, to March 2016, was the epidemic of FMD serotype A (G-VII genotype), which had swept across the Arabian peninsula, and entered Turkey, Iran and Armenia, and against which no proven well matched vaccine existed, and the continuation of the type O epidemic in North Africa in late 2015. The type A epidemic abated in the spring, but was replaced by upsurge in type O cases in Iran and Turkey, which was locally severe in Iran. A different set of virus lineages including SAT2 persists in Egypt and is a cause for concern. The jump of infection (type O India 2001) to the Indian Ocean island of Rodrigues is yet another example of an unexplained jump of infection, this time into a free country, suggesting high prevalence of infection in source regions and/or movement of infection with people rather than trade. These examples are warnings for free regions.

3. Phase IV of the EC /FAO agreement on support to the EuFMD activities was signed between EC and FAO, with backdating for financial support to 1st October 2015. In the period since 1st October 2015, essential activities to implement the decisions of the 90th Executive were funded from the Administrative Fund of EuFMD, as an interim measure, and after signature these costs are then transferred to the EC Phase IV project.

4. The above situation highlights the importance of the Member States (MS) contribution in maintaining the EuFMD, since the MS support the key professional staff and in this situation, also interim funding of essential EC programme activities. The non-EC funding (by MS additional contributions and AUS/NZ) has also been important to maintain certain activities and members of the team. These additional means of support have included in the past six months a significant support from Germany for training their staff in FMD investigation, in the field in Kenya and Germany.

5. In the above, the two positions (Training Programmes Manager and Contingency Planning Officer, CPO) that were filled in September 2015 under Administrative Fund support, have been critical to implement the programme "by virtual means", and have actually enabled a new programme of online training and networking (Practical FMD manager program) in English and Russian languages, to address common interests and needs across Pillar I and II. The CPO (Marius Masiulis) chose to return to Lithuania in August after 11 months, as had been agreed with his hierarchy at the start of his appointment, and Mark Hovari (Hungary) rejoined the team, as CPO, from 1st September 2016.

6. ***EC program implementation, Phase IV, since 1st March 2016*** *:*
Activities have commenced under almost every component but major financial commitments (e.g. Pirbright Contract, research fund contracts) and new ACTIONS (Component 1.8) were postponed until Funding was committed and received from EC.

7. **Under Pillar I** Support to the MS, the focus has been upon
- Component 1.1: Training for prevention and response. Following the needs assessment survey of the 37 MS, an agreement was reached with almost all MS on their use of training credits to select courses in the first 24 months, and several courses delivered (Real Time Course, online courses and workshop for crisis managers), with delivery well on track;
- Component 1.2: Contingency Planning. The modeling networks and contingency planners webinar series have continued, and new tools (Guidelines on simulation exercises, and self-assessment of contingency plans), developed;

- Component 1.3: THRACE. Supporting the national project staff in the three countries to work in surveillance, and supply essential diagnostics, plus a major workshop in Bulgaria for improving surveillance for LSD (risks associated with vector ecology).

-Component 1.4: The Balkans. Work component has undertaken a major laboratory simulation exercise across the region, testing both the delivery system for emergency diagnostic supplies and their use and interpretation;

- Component 1.5: Activities of the Research Fund and Component 1.8: Risk Assessment have been postponed, the first until decisions on priorities reached in September 2016; the second awaiting arrival of sufficient expertise to carry through the workplan. The monthly **r**eporting of the Global Situation has continued by demand.

8. **In support of Pillar II**, of most significance has been :
   - Workshops for Jordan, Lebanon and Mauritania, to progress their RBSP (PCP pathway).
   - The implementation of a webinar/training series for REMESA countries, including French and Arabic languages (Component 2.3);
   - Support to develop a surveillance for Morocco and Algeria (workshop and follow-up technical work);
   - Implementing a programme in Russian language for Practical FMD management, with take up of West Eurasian countries;
   - Agreement reached in Paris between a group of six Caucasus region countries, including the Russian federation, on information sharing, planning of control activities, and emergency preparedness. This was followed up by a field and desk based simulation exercise in July 2016, with participation of five of the six countries;
   - Finalization of the series of training courses for Turkey in September (went ahead although there was UN reduced travel to Turkey rules, and security clearance process for meetings held in Turkey).

9. **In support of Pillar III**, support has been focused to the Gf-TADS Working Group through **development of e-learning on the PCP, and testing of the first PCP e-learning courses (August 2016).** *Recruitment of an STP for Pillar III was completed in July, which has assisted the pilot course evaluation.*

10. **Monthly Global Surveillance Reports** have been produced, managed by Teresa Scicluna, STP.

Additional funding (Non-EC) pipeline

11. In line with EuFMD policy relating to full cost recovery (funding) of activities requested by MS or other parties, and following requests from the Spain (for an emergency course) and Germany, e-learning courses have been delivered for national training in UK and Spain, and Real-Time Training programme for Germany. Courses under the contract with Australia/New Zealand resumed in November 2015 and two more were held in May 2016. The courses all were successful. The popularity and impact of the programme has been high and there is potential for extension of this programme to 2019. Under a separate EC programme (LINK-TADS project), online training on FMD for Chinese national participants will occur in September with EuFMD costs to manage this covered by this FAO project.

EuFMD Program Report

12. The management responsibilities for the EuFMD program are shown in **Table 1**. The Short Term Professionals (STPs) assist with management in areas of their competence.

Table 1 – Management Responsibility: Pillar and Component Managers 2016 - EuFMD /EC Action 2014-16 (Phase III)

BOLD= Continuity. Shaded= change. TSO: Training Support Officer. STP: Short term professionals. KS: Keith; NR: Nadia; FR: Fabrizio; JM: Jenny; AUS: Australian funds (to 12/2013)

Pillar	Comp	**Comp.**	Output Supervisor	Component (Output) Manager	2015 to 2016			Comment
					October 15-March 16	April 2016-September 2016	September 2016-	
I	1.1	**Training-RT**	CPO: Mark Hovari	STP	**Magdalena Gajdzinka**	**Malin Grant**	Maria De la Puente Arevalo	**AUS funds support the Training Officer to August**
	1.2	**Contingency Planning**	KS	CPO	**Marius Masiulis**	**Marius Masiulis**	Mark Hovari	
	1.3	**THRACE**	CPO: Mark Hovari	STP	Artem Skypnyk	Miriam Casey	Natasha Antovska	
	1.4	**Balkans**	CPO: Mark Hovari	STP	Artem Skypnyk	Miriam Casey	TBC (Isik Ersin TBC)	
	1.5	**Res Fund**	KS		K Sumption			
	1.6	**Crisis**	KS					
	1.7	**PTS**	KS	CPO: Mark Hovari				
	1.8	**Surveillance Rep**	KS	TBD	Teresa Scicluna	Teresa Scicluna	Teresa Scicluna	
II	2.1	**Turkey/GEO**	KS	HQ based Consultant	Gunel Ismayilova			
	2.2	**Israel/Cyprus**	KS	Home-based consultant	Kees VM			
	2.3	**REMESA**	KS	Part-time officer	Fabrizio Rosso			Fabrizio covered this from Malta.
	2.3	**REMESA**	KS	STP	Mounir Khali	Mounir Khali		Fabrizio covered this from Malta.
	2.4	**P2 Training**	Jenny Maud	STP	**Karima Ouali**	**Karima Ouali**	**Karima Ouali**	New STP position in Phase IV
III	3.1	**Monitoring**	KS	TBD	Not filled			
	3.2	**PCP**	KS	Home-based consultant	Chris			
	3.3	**Global Lab**	KS	Home-based consultant	Kees			
	3.4	**P3- Training**	Jenny Maud	STP	**TBD**		**Wilmot Chikurunhe**	STP appointment for SAARC region to follow.

13. The Open Session 2016 (OS16) will be held in Cascais, Portugal, from 25-28th October 2016. The Programme of the Session is now online, and has a strong first day on innovations in the areas of managing disease risk in endemic and epidemic situations, including compartmentalization and vaccination to live issues. Over 130 abstracts were submitted for the scientific sessions and the third day will be split between innovation clusters to allow networks to identify priorities for follow-up actions, and presentations to smaller groups. Nigel Gibbens, CVO UK, has agreed to give the final keynote paper before the close of the Session on Day 3. A closed meeting will occur for the Scientific Committee on 25th October, and a two-day training on the PCP and emergency management for Portuguese speaking veterinarians will occur on 24-25th October.

14. The OS16 is designed and costed to be self-supporting, and with the current number of registered participants is on track to cover its costs. A proposal relating to the use of the balance after costs will be discussed with the Executive Committee.

Administrative Report

15. The Secretariat staff (as of September 2016).

Technical team:

Executive Secretary	Keith Sumption
Training Programme Manager	Jenny Maud
Contingency Planning Officer	Marius Masiulis (up to August 2016); Mark Hovari (from Sept 2016)
Communications and Networks Officer	Nadia Rumich
Short Term Professionals	Miriam Casey (Ireland) Until Sept 2016 Teresa Scicluna (Malta) Malin Grant (Sweden) until Sept 2016 Karima Ouali (Algeria) Feb 2017 Mounir Khayli (Morocco) Sept 2016

Upcoming STP: Maria De la Puente Arevalo (Spain, confirmed); Isik Ersan (Turkey, subject to national clearances being obtained); Natasha Antovska (FYROM, confirmed)

Intern	Laura Letwin (UK, a vet graduate from June 2016)
Component Managers	Fabrizio Rosso, Gunel Ismayilova, Chris Bartels, Kees van Maanen, Nick Lyons, Carsten Potzsch

Administrative team:

Program Co-ordinator	Cecile Carraz
Finance Assistant	Silvia Clementelli
Operational support team	Erica Tomat, Chiara Addari, Emanuela Pirrello; Maurizio Licastro

16. **Short Term professionals** (STPs): Miriam Casey (Ireland) will finish in September 2016 and will hand over to Natasha Antovska (FYROM) to manage Component 1.4. A position has been offered to Isik Ersan, Turkey, but following the attempted coup in Turkey, complications arose affecting clearances for such positions. Should clearances not be received, the EuFMD will recruit Paolo Motta (Italy), on a temporary basis. Maria De la Puente Arevalo (Spain) will take over from Malin Grant (Sept 2016) covering the Training Component.

17. **Administrative support:** Currently, we have a Program Co-ordinator (Ms Carraz), a finance assistant (Ms Clementelli), and three team members (Ms Tomat, Ms Pirrello, M. Licastro) working on all the administrative and logistic issues

of the EuFMD. Ms Addari is now fully funded from the additional training resources (therefore off the EC and MS budget) to provide for the rapidly growing number of e-learning courses. In this way the non-EC resources assist to subside EC activities, and provide more training options for the MS.

The Open Session 2016 requires significant administrative support (one full time person), this is funded from registration costs, making OS16 a self-supporting activity.

18. **Linkage of funding to positions** under Phase IV

Under the GAF submitted to the EC after signature of the new agreement, the responsibilities for

a. **Supervision and management** of each Output is summarized below.
Consultants 1-4 refer to those whose Terms of Reference were submitted to FAO for clearance, and would provide longer term (11 month contract) support.

b. **Operational support**: the GAF was cleared by FAO based on five-operation support positions, of which four would be supported under the EC and one by the MUL/11.

BOLD script indicates positions funded under the EC programme, and italics those funded by EuFMD under MTF/INT/011/MUL.

Table 2: Phase IV team for implementing the EC project activities

Component (Output) Number	*Output Supervisor*	*Output Manager*	*Lead - Network and training support*
1.1	*CPO (P3 EQUIV)*	**STP 1**	P2 (80:20 EC AND MUL/11)
1.2	*ExSec (EXSEC (P5)*	CPO (P3 EQUIV)	P2 (80:20 EC AND MUL/11)
1.3	*CPO (P3 EQUIV)*	*STP 2*	
1.4	*CPO (P3 EQUIV)*	*STP 2*	
1.5	*EXSEC (P5)*	**Consultant-2**	P2 (80:20 EC AND MUL/11)
1.6	*EXSEC (P5)*		
1.7	*EXSEC (P5)*	Consultant2	
1.8	*EXSEC (P5)*	CPO (P3 EQUIV)	
2.1	*EXSEC (P5)*	**Consultant-3**	
2.2	**Consultant-1**	**Consultant-3**	
2.3	**Consultant-1**	**STP3**	
2.4	*TPM (P3 EQUIV)*	**Consultant-4**	P2 (80:20 EC AND MUL/11)
3.1	*EXSEC (P5)*	**Consultant**	
3.2	*EXSEC (P5)*	**Consultant-4**	
3.3	*EXSEC (P5)*	**Consultant-2**	
3.4	*TPM (P3 EQUIV)*	**STP4 Consultant-4**	P2 (80:20 EC AND MUL/11)

Key: EXSEC (P5 Animal Health Office, Executive Secretary)
P2 (Network and Training Support Officer)
TPM (Training Programmes Manager, consultant with experience/terms equivalent to P3).
CPO (Contingency Planning Officer, consultant with experience/terms equivalent to P3).

19. Financial position

The Secretariat manages three Trust Funds;

- For the Administration of the Secretariat (**MTF/INT/011/MUL**, contributions from the Member States)
- For managing contributions from the EC (**MTF/INT/003/EEC**)
- An Emergencies and Training Fund into which additional contributions have been received for provision of training (**MTF/INT/004/MUL**).

With the EC contribution, specific agreements are signed for each contribution, and the form of contract and reporting are set in the UN- EC framework agreement ("PAGODA").
With the two MUL funds, these are governed by the general FAO administrative rules, augmented by those of the Financial Regulations adopted by the EuFMD Commission. The latter exist to cover areas where clarity is needed on reporting of the use of Funds, given that the contributing member states meet at Sessions only every two years and not all members attend the full Sessions.

20. Position of the Administrative Fund (MTF/INT/011/MUL)

The financial position of the Fund is a healthy one, considering the problems associated with carrying the burden of the EC programme activities since 1st October 2015. The re-imbursement of the 011/MUL Fund, from the EC programme is underway but -in the tables provided- it can be seen that a negative cash balance occurred in July (MINUS USD 14,678). By September 19th 2016, the balance had returned to USD + 143, 248. At year end the balance is expected to be a healthy positive, above 450,000. This is higher than that projected at the General Session 2015, and avoids the need for further cost saving actions at this point.

Table 3 – Finance Report Administrative Fund (MTF/INT/011/MUL)

MTF/INT/011/MUL - TF number 904200					
EUROPEAN COMMISSION FOR THE CONTROL OF FMD					
Financial Report from 1st January to 31 July 2016					
	USD	USD		Eur	Eur
Balance as at 1 January 2016		343,633			307,345
					0
Interest received	0				0
Contributions from member countries and in	389,254			348,149	0
Project Income Earned (Child)	0			0	0
Expenditure					
Salaries	369,026			330,057	
Consultant	292,415			261,536	
Contracts	(7,703)			(6,890)	
Duty Travel	52,429			46,892	
Training	8,405			7,517	
Hospitality	313			280	
General Operating Expenses	7,574			6,774	
Expendable Equipment	32,526			29,091	
Non-Expendable Equipment	(7,419)			(6,636)	
Total Expenditure		747,565			668,622
Balance as at 31 July 2016		**(14,678)**			**(13,128)**
The Financial Statements of the Commission are maintained in US Dollars in accordance with the accounting policies and administrative systems of FAO. The amounts stated in Euros, including the opening balance, have been converted from US Dollars at the average monthly UN Operational Exchange Rates for 2016. The average monthly UN Operational Exchange rate applicable for period to 31 July 2016 is USD 1: EUR 0.8944					

Given the above, we can continue to support the two STPs from the Administrative Fund, these positions being short term, six-month commitments only and had been identified by the Executive as areas where savings could be made if the financial situation required.

21. Position of the Administrative Fund (MTF/INT/011/MUL) – Outstanding Contributions

With the exception of the few countries listed in the first column of the **Table 4/5,** our MS are consistent in paying their contributions within the calendar year and we can expect that of the currently outstanding amount, most of this (200,000 USD) will be contributed by MS by the end of the calendar year.

The situation relating to contributions from Albania and FYROM, if it continues, requires the Executive to decide upon taking action to suspend their membership, for the General Session 2017. The decision should be taken there about further action in line with the Constitution, which deems that after two-years of non-payment, they are withdrawn from membership.

Statement of income and expenditure

The opening cash balance in 2016 was USD 343,633.

Contributions outstanding previous years USD 125'589.54 and contributions expected for 2016 USD 606'997.00

Total Contributions therefore expected: 732,586.54

Contributions received in 2016 (up to 31/07) related to previous years and for 2016 amounted to USD 403.063.00.

Contributions received in Aug. Sept 2016 - Germany, brings the total contributions to **USD 449'674.00**

Out-Standing Contributions **USD 241,165.00**

Total Contributions owed 2015-2016	USD 732,586.54
Contributions outstanding previous years (2015)	USD 125'589.54
MS Contributions expected for 2016	USD 606'997.00
Received up to 31/07/2016	USD 403'063.00
Outstanding Contributions 2016/2015	USD 287,776.00
Contribution Received up to 15/09/2016 (Germany Slovak republic))	*USD 449,674.00*
Total Outstanding contributions at 15/09/2016	*USD 241,165.00*
MS with outstanding contributions greater than two times annual contribution:	
Albania	USD 21'074.00
Bulgaria	USD 17'290.00
Greece	USD 15'650.00
FYR of Macedonia	USD 29'524.00

Table 4. Financial statement Member States Contributions at 31/07/2016

TRUST FUND No. 9042.00 MTF/INT/011/MUL - Inter-Regional - European Commission for the Control of FMD					
Status of Contributions as at 31 July 2016 (expressed in USD)					
ORACLE CODE: TF-AGADD-TFAA97AA89122					
Member Governments		Outstanding 01/01/2016	Contribution due for 2016	Received up to 31/12/2016	Outstanding 31/12/2016
ALBANIA		16,570.00	4,504.00		21,074.00
AUSTRIA			15,650.00	15,650.00	0.00
BELGIUM			23,386.00		23,386.00
BOSNIA		4,170.00	4,504.00	8,674.00	0.00
BULGARIA		12,786.00	4,504.00		17,290.00
CYPRUS		4,170.00	4,504.00	8,674.00	0.00
CROATIA			4,504.00	4,504.00	0.00
CZECH REPUBLIC			13,809.00	13,809.00	0.00
DENMARK			23,386.00	23,386.00	0.00
ESTONIA			4,504.00	4,504.00	0.00
FINLAND			13,809.00		13,809.00
FRANCE			46,611.00	46,611.00	0.00
GEORGIA			4,504.00	4,504.00	0.00
GERMANY			46,611.00		46,611.00
GREECE		12,786.00	15,650.00	12,786.00	15,650.00
HUNGARY			13,809.00	13,809.00	0.00
IRELAND			15,650.00	15,650.00	0.00
ISRAEL			13,809.00		13,809.00
ITALY			46,611.00		46,611.00
LATVIA		4,170.00	4,504.00	8,674.00	0.00
LITHUANIA			4,504.00	4,504.00	0.00
LUXEMBOURG		4,170.00	4,504.00	4,170.00	4,504.00
FYR of MACEDONIA		25,020.00	4,504.00		29,524.00
MALTA			4,504.00		4,504.00
NETHERLANDS			23,386.00	23,386.00	0.00
NORWAY			15,650.00	15,650.00	0.00
POLAND			23,386.00		23,386.00
PORTUGAL			13,809.00		13,809.00
ROMANIA			15,650.00	15,650.00	0.00
SERBIA			13,809.00		13,809.00
SLOVAK REPUBLIC			13,809.00	13,809.00	0.00
SLOVENIA			4,504.00	4,504.00	0.00
SPAIN			23,386.00	23,386.00	0.00
SWEDEN			23,386.00	23,386.00	0.00
SWITZERLAND			23,386.00	23,386.00	0.00
TURKEY			23,386.00	23,386.00	0.00
UNITED KINGDOM			46,611.00	46,611.00	0.00
	TOT.	83,842.00	606,997.00	403,063.00	287,776.00
received December 2015					
actual contributions received for period January-July 2016 is 389,254 (minus Slovak Rep. Contr.)					

Table 5. Financial Statement Member States Contributions at 15/09/2016

Member Governments		Outstanding 01/01/2016		Contribution due for 2016	ceived up to 15/09/2016	Outstanding 31/12/2016
ALBANIA		16,570.00		4,504.00		21,074.00
AUSTRIA				15,650.00	15,650.00	0.00
BELGIUM				23,386.00		23,386.00
BOSNIA		4,170.00		4,504.00	8,674.00	0.00
BULGARIA		12,786.00		4,504.00		17,290.00
CYPRUS		4,170.00		4,504.00	8,674.00	0.00
CROATIA				4,504.00	4,504.00	0.00
CZECH REPUBLIC				13,809.00	13,809.00	0.00
DENMARK				23,386.00	23,386.00	0.00
ESTONIA				4,504.00	4,504.00	0.00
FINLAND				13,809.00		13,809.00
FRANCE				46,611.00	46,611.00	0.00
GEORGIA				4,504.00	4,504.00	0.00
GERMANY				46,611.00	46,611.00	0.00
GREECE		12,786.00		15,650.00	12,786.00	15,650.00
HUNGARY				13,809.00	13,809.00	0.00
IRELAND				15,650.00	15,650.00	0.00
ISRAEL				13,809.00		13,809.00
ITALY				46,611.00		46,611.00
LATVIA		4,170.00		4,504.00	8,674.00	0.00
LITHUANIA				4,504.00	4,504.00	0.00
LUXEMBOURG		4,170.00		4,504.00	4,170.00	4,504.00
FYR of MACEDONIA		25,020.00		4,504.00		29,524.00
MALTA				4,504.00		4,504.00
NETHERLANDS				23,386.00	23,386.00	0.00
NORWAY				15,650.00	15,650.00	0.00
POLAND				23,386.00		23,386.00
PORTUGAL				13,809.00		13,809.00
ROMANIA				15,650.00	15,650.00	0.00
SERBIA				13,809.00		13,809.00
SLOVAK REPUBLIC				13,809.00	13,809.00	0.00
SLOVENIA				4,504.00	4,504.00	0.00
SPAIN				23,386.00	23,386.00	0.00
SWEDEN				23,386.00	23,386.00	0.00
SWITZERLAND				23,386.00	23,386.00	0.00
TURKEY				23,386.00	23,386.00	0.00
UNITED KINGDOM				46,611.00	46,611.00	0.00
	TOTAL	83,842.00		606,997.00	449,674.00	241,165.00

22. Position of the Emergencies and Training Fund (MTF/INT/004/MUL)

This Fund has received additional contributions to cover training courses funded by MS and by Australia/New Zealand which are sufficient to cover the commitment to the remaining courses to be delivered from the 2015/16 contract with AUS/NZ. The funds from the latter are handled under a subaccount ("Baby 01"). In February 2016, a national real-time training programme was provided to Germany to train veterinarians in Kenya from all of their Lander. It was fully funded from these Lander (75,900 €).

The Fund had been used to pay for a Full Time Training Development Officer in 2014 and up to August 2015 (Jenny Maud). From August 2015, Ms Maud's position has been covered by the Administrative Fund, freeing up training funds to support a training administrator (Ms Addari) and temporary technical consultants to develop new content.

The balance in the TF at the end of July 2016 was USD 145,291. Most of this amount are uncommitted funds, since they are the balance after activities have been completed. In line with EuFMD Financial regulations, they are available for use by the Commission in line with decisions of the General Session on the purpose of the Fund. Contributions received in 2016 as a result of additional training activities are not shown in the relevant column as they have been charged to the contributor in a different way, in which their contribution has the net effect of reducing expenditure. A presentation on the financial position of this Fund will be provided at the Executive Committee. **Table 6 Financial Report Emergencies and Training Fund.**

Table 6 - Financial Report Emergencies and Training Fund (MTF/INT/004/MUL)

MTF/INT/004/MUL - TF number 909700				
FOOT AND MOUTH DISEASE - EMERGENCY AID PROGRAMME				
Financial Report from 1st January to 31 July 2016				
	USD	USD	Eur	Eur
Balance as at 1st January 2016		206,549		184,737
Interest received	0			
Contribution received	0	0		0
Expenditure				
Salaries Professional	0		0	
Consultancy	49,546		44,314	
Contracts		-23,052	-20,618	
Duty Travel	11,662		10,430	
Training	26,175		23,411	
General Operating Expenses	215	-11,612	192	-10,386
Expendable Equipment	7,745		6,927	
Non-Expendable Equipment	0		0	
Support Costs 6% (on all items except expendable equipment)	580		519	
Less: Total Expenditure		61,258		54,789
Balance restated at UN Exchange rate of 31 July 2016				
Balance as at 31 July 2016		**145,291**		129,948
Balance restated at UN Exchange rate of 31 July 2016				
The Financial Statements of the Commission are maintained in US Dollars in accordance with the accounting policies and administrative systems of FAO. The amounts stated in Euros, including the opening balance, have been converted from US Dollars at the average monthly UN Operational Exchange Rates for 2015.The average monthly UN Operational Exchange Rate applicable for the period to 31 July 2016 is USD 1: EUR 0.8944				

23. Position of the EC Program Fund (MTF/INT/003/EEC)

As a requirement of FAO to financially close the Phase II and Phase III projects by the end of July 2016, we can report that Phase II, Entity 608868, was finally closed with a cash deficit of USD 465. The reasons behind the delayed closure (Phase II was 2009-2013) are multiple and mainly relate to the fact that the Fund has been operated continuously since the early 1980s, and the closure process in FAO requires all transactions however historic to be signed off as having been completed with no remaining commitment. Now this has been achieved, it greatly simplified final closure of Phase III (2013-15).

Phase IV Project financial position:

Expenditure (hard and soft commitment) on Phase IV activities at 30th September 2016 was 1,042,853 **EUR** (**Tables 7 and 8**). This is circa 32% of the 24 month budget, over a period of 12 months (50%) of this budget cycle. It must be noted that the agreement with EC is for four years, but the detailed outcomes and their associated budget were agreed with EC for the first two years, and the second two years to follow after the General Session in 2017 and the mid-term review.

It must be noted that not all of the EC activity expenditure carried by the 011/MUL has yet been charged back to the EC Fund, but the final % is well within the 50% of programme expenditure track.

The 24 month contract with Pirbright (Component 3.3) is counted as a commitment, and as this is the principal use of funds under Component 3.3, that component has reached 93% of its available budget.

Table 7 Expenditures on Phase IV 12 months activity by Pillar

EURO €	2015-2017				PILLAR I				PILLAR II				PILLAR III			
ACTIVITY																
Account NB. Description	III PILLARS Budget 2015-2017	III PILLARS 12 mths Exp.	%	III PILLARS Balance Available 12 mths	Pillar I Budget 2015-2017	Pillar I 12 mths exps	%	Pilar I Balance Available 12 mths	Pillar II Budget 2015-2017	Pillar II 12 mths exps	%	Pillar II Balance Available 12 mths	Pillar III Budget 2015-2017	Pillar III 12 mths exps	%	Pilar III Balance Available 12 mths
5570 CONSULTANT (Technical)	€ 847,775	€ 347,244	41.0%	€ 500,531	€ 415,275	€ 161,128	39%	€ 254,147	€ 285,000	€ 143,888	50%	€ 141,112	€ 147,500	€ 42,228	29%	€ 105,272
5900 TRAVEL	€ 728,195	€ 151,501	20.8%	€ 576,694	€ 396,200	€ 75,200	19%	€ 321,000	€ 241,500	€ 69,491	29%	€ 172,009	€ 90,495	€ 6,810	8%	€ 83,685
5650 CONTRACTS	€ 843,863	€ 425,380	50.4%	€ 418,483	€ 339,830	€ -	0%	€ 339,830	€ 91,500	€ -	0%	€ 91,500	€ 412,533	€ 425,380	103%	-€ 12,847
5920 TRAINING	€ 292,447	€ 33,512	11.5%	€ 258,935	€ 144,000	€ 3,394	2%	€ 140,606	€ 125,947	€ 30,118	24%	€ 95,829	€ 22,500	€ -	0%	€ 22,500
6000 PROCUREMENT EQUIPMENT	€ 302,947	€ 66,199	21.9%	€ 236,748	€ 210,336	€ 54,080	26%	€ 156,256	€ 60,952	€ 2,834	5%	€ 58,118	€ 31,659	€ 9,285	29%	€ 22,374
6300 GENERAL OPERATING EXPENSES	€ 198,576	€ 19,017	9.6%	€ 179,559	€ 144,778	€ 13,705	9%	€ 131,073	€ 43,798	€ 3,006	7%	€ 40,792	€ 10,000	€ 2,306	23%	€ 7,694
TOTALS for III Pillars Activities 2015-2017	€ 3,213,803	€ 1,042,854	32.4%	€ 2,170,949	€ 1,650,419	€ 307,508	19%	€ 1,342,911	€ 848,697	€ 249,337	29%	€ 599,360	€ 714,687	€ 486,009	68%	€ 228,678
HQ Staff and Support Cost																
Account NB. Description	III PILLARS Budget 2015-2017	III PILLARS 12 mths Exp.	%	III PILLARS Balance Available 12 mths	Pillar I Budget 2015-2017	Pillar I 12 mths exps	%	Pilar I Balance Available 12 mths	Pillar II Budget 2015-2017	Pillar II 4 mths exps	%	Pillar II Balance Available 12 mths	Pillar III Budget 2015-2017	Pillar III 4 mths exps	%	Pilar III Balance Available 12 mths
5300 SALARIES PROFESSIONAL	€ 199,553		0.0%	€ 199,553	€ 114,845	€ -	0%	€ 114,845	€ 50,499	€ -	0%	€ 50,499	€ 34,209	€ -	0%	€ 34,209
5570 CONSULTANT (Operational)	€ 283,354	€ 167,576	59.1%	€ 115,778	€ 130,164	€ 77,084	59%	€ 53,080	€ 81,244	€ 48,598	60%	€ 32,646	€ 71,946	€ 41,894	58%	€ 30,052
6150/6160 REPORT COSTS PROJECT EVALUATION COSTS	€ 41,608	€ -	0.0%	€ 41,608	€ 26,651	€ -	0%	€ 26,651	€ 7,359	€ -	0%	€ 7,359	€ 7,599	€ -	0%	€ 7,599
TOTALS for HQ Staff and Support Cost	€ 524,515	€ 167,576	31.9%	€ 356,939	€ 271,660	€ 77,084	28%	€ 194,576	€ 139,102	€ 48,598	35%	€ 90,504	€ 113,754	€ 41,894	37%	€ 71,860
OVERALL III Pillars																
OVERALL	III PILLARS Budget 2015-2017	III PILLARS 12 mths Exp.	%	Balance Available	Pillar I Budget 2015-2017	Pillar I 12 mths exps	%	Balance Available	Pillar II Budget 2015-2017	Pillar II 12 mths exps	%	Balance Available	Pillar III Budget 2015-2017	Pillar III 12 mths exps	%	Balance Available
TOTALS for III Pillars Activities 2015-2017	€ 3,213,803	€ 1,042,854	4.2%	€ 3,079,973	€ 1,650,419	€ 307,508	3%	€ 1,606,841	€ 848,697	€ 249,337	10%	€ 766,967	€ 714,687	€ 486,009	1%	€ 706,164
TOTALS for HQ Staff and Support Cost	€ 524,515	€ 167,576	6.7%	€ 489,255	€ 271,660	€ 77,084	6%	€ 255,457	€ 139,102	€ 48,598	7%	€ 128,992	€ 113,754	€ 41,894	8%	€ 104,807
OVERALL - III Pillars TOTAL	€ 3,738,318	€ 1,210,430	32.4%	€ 3,569,227	€ 1,922,079	€ 384,592	20.0%	€ 1,862,298	€ 987,799	€ 297,935	30.2%	€ 895,960	€ 828,441	€ 527,903	63.7%	€ 810,971
Project Servicing Charge 7%	€ 261,683															
GRAND TOTAL	€ 4,000,000															

Table 8 Expenditure Phase IV By Component 12 month activity

12 Months Expenses October 2015 - September 2016							Forecast 4 Months Activities - October 2016- Jan 2017			
Pillars Supervisor	Overall PILLAR Manager Components Beneficiaries	Components Managers	Total Budget Allocated Phase IV	12 months Expenses Oct. 15 -Sept. 2016	50% of project completion	Balance available (12 months)	Oct'16	Nov'16	Dec'16	Jan. 17
	1.1.E-learning programme		€ 467,716	€ 87,390	19%	€ 380,326	FEPC course MS & North Africa Estonia E-learning FMD Emergency Preparation (English)	Fepc Fmd Emergency preparation course MS/Croatia Modelling elearning training	FepC FMD Emergency MS	FepC FMD Emergency prep. Course Cyrous; Serbia; France; MS
	1.1 Training for Member States	Nadia/ Jenny/Mark Hovari/+STP					OS Training 24/25 ott.	Laboratory Training Pirbright NTC 25 Kenya Modelling Workshop Frascati	Modelling Workshop Frascati	Tentative Jan Feb. FMD Simex Tent. Feb.Mar. Vaccination into practice
PILLAR I Supervisor Keith Sumption 1'650'450 €	1.2 Improved Contingency Planning	Mark Hovari + STP	€ 90,000	€ 4,667	5%	€ 85,333				
	1.3 THRACE Region	Mark Hovari +STP	€ 354,474	€ 123,907	35%	€ 230,567		Tentative Management Meeting Tripartite		
	1.4 BALKANS Region	Mark Hovari + STP	€ 178,120	€ 45,959	26%	€ 132,161				
	1.5 EuFMD Fund for applied RESEARCH	Keith Sumption	€ 301,930	€ 18,009	6%	€ 283,921	Open Session - Cascais Portugal		tentative SCRPD/ STC	
	1.6 Emergency Response	Keith Sumption	€ 165,179	€ 23,418	14%	€ 141,761	c/o Anses Capability analysis and scenarios of resources pooling in case of foot-and-mouth disease epizootics in Tunisia	c/o Anses Capability analysis and scenarios of resources pooling in case of foot-and-mouth disease epizootics in Tunisia		
	1.7 Proficiency Testing Scheme	Kees Van Maanen	€ 46,500	€ 1,445	3%	€ 45,055				
	1.8 Risk Analysis and Communication	Mark Hovari	€ 46,500	€ 2,712	6%	€ 43,788		Crobodimo// Zagreb /Sofia location tentative		
PILLAR II Supervisor Keith Sumption 848'697 €	2.1 SOUTH EAST EUROPE SEE/ West Eurasia	Gunel Ismailova	€ 334,909	€ 110,469	33%	€ 224,440	Technical Wksp RBSP development in Kyrgyzstan	Workshop /discussion following 4th Epi Training-Turkey -(20-24 -09)		Tentative Simex TCC
	2.2 South East MEDITERRANEAN SEM / Cyprus - Israel	Kees Van Maanen	€ 175,239	€ 34,617	20%	€ 140,622		Tentative Wksop / Jordan/Lebanon Tentative mission Palestine		
	2.3 Support to REMESA North Africa	Karima Ouali	€ 198,049	€ 86,277	44%	€ 111,772	2nd Wksp EuFMD Mauritania OS Side meeting	3 paralell webinars "Cost benefit Analysis" REMESA 13th Steering Comm.Lebanon		
	2.4 Pillar II Training development and co-ordination	Chris BARTELS	€ 140,500	€ 17,975	13%	€ 122,525				
PILLAR III Supervisor Keith Sumption 714'687 €	3.1 Support to Global progress monitoring	Keith Sumption	€ 50,495	€ 7,505	15%	€ 42,990				
	3.2 Method and guidelines fo application of PCP-FMD	Chris BARTELS	€ 95,000	€ 25,994	27%	€ 69,006	OS Training PCP 24/25 ott.			
	3.3 Laboratory Support FMD reference lab serv. support regional epidemio surv. lab networks	Kees Van Maanen	€ 476,692	€ 442,182	93%	€ 34,510	LOA WRL On going	FAO /Oie Laboratories network Anses		
	3.4 Global access to PCP-FMD training resources	Chris BARTELS	€ 92,500	€ 10,328	11%	€ 82,172	OS Training PCP 24/25 ott. SAARC			Online Course SAARC
3'213'803 €	Total Budget Allowances 2015-2017		*€ 3,213,803*	*€ 1,042,853*	*32%*	*€ 2,170,950*				
MTF/INT/011/MUL Title EuFMD							OS			
Trainings /Contributions Donor Australia Training Contributions(UK, Lebano, US, Spain, and Germany) China Link Tads			AUS $1,128099 '16 Germany € 75.900 China Link Tads				Chinese LinkTAds FePC online course	KTC 20	KTC 21/ KTC 22	

Appendices

Appendix 1

Findings and Conclusions of the 91st Session of the Executive Committee

The Executive Committee, after considering the documents and issues on the Agenda of the 91st Session of the Executive Committee of the EuFMD,

Acknowledges

The support of the European Commission for the Phase III of the EuFMD/EC work programme and to emergency actions in the European neighbourhood, the continued support of the Member States for the Secretariat of the Commission, and the interest of international partners to work together under the Global Strategy for Foot and Mouth Disease (FMD) towards common objectives that will reduce the risk of new FMD epidemics.

In relation to the general FMD risk situation

1. The recent jumps of infection from South Asia into the Middle-East, and the rapid spread between countries in the south-eastern European neighbourhood should be noted by the member states as a major cause for concern.
2. Laboratory and field studies on the level of protection provided by serotype A antigens in the EU bank and the new A G-VII vaccines are urgently required. The possibility to undertake such studies in the field in Iran or Turkey should be pursued vigorously.
3. The SAP Institute, Turkey, is to be commended for the very quick development of a homologous vaccine to the epidemic type A G-VII strain, and the GDFC for bringing forward the spring campaign to ensure early, national re-vaccination of the national herd, a very major logistical and practical achievement.
4. As the detection of the new strain and the initiation of vaccine development occurred before the international reporting of detection of the new strain, the Executive must remind its member states of the obligation to report epidemiologically significant events to the OIE and, in line with its mandate, also to the EuFMD.
5. The SAP Institute, as leader of the WELNET, together with the WRL and FGI-ARRIAH, had provided valuable information in English and Russian to the FMD laboratory network in the countries of West Eurasia and the Middle-East.
6. WELNET, working with WRL and FGI-ARRIAH, should urgently develop vaccine recommendations for West Eurasia for the upcoming Roadmap Meeting, and in future ensure it follows closely the situation in the Arabian Peninsula which now appears to be an entry point for infection to Turkey/Iran/Trans Caucasus.
7. Surveillance to provide confidence in the absence of virus circulation in regions recently affected by FMD in North Africa is required. Support to the design and implementation could be provided under Component 2.3 of the EuFMD/REMESA workplan.

Conclusions

1. Considering that human resources can be critically constrained during emergency responses, the EuFMD should develop and consult upon a set of “Guidelines on human resource sharing”, to ensure MS are aware of issues and their potential solutions, firstly targeting non-EU countries (i.e. western Balkans).
2. The area of decision-making upon the use of emergency vaccination in free countries remains a priority for member states. It was recommended that EuFMD proceed through a process involving 1) an expert consultation to prioritise issues, inform the objectives and design of a workshop, 2) a well-structured

workshop involving multiple member states, based on the recommendations of the consultation, and 3) wide dissemination of the findings of the workshop to all Member States.

3. The practical management of emergency vaccination programmes requires to be tested in many countries and remains an important planning issue. It was recommended to investigate whether training in this field could be combined with neighbourhood/North African countries where such emergency campaigns have been recently conducted and which are interested to improve their emergency preparedness.
4. Regarding the development of diagnostic bank, the idea of focussing initial development to the FMD free, non-EU countries (i.e. western Balkans) was endorsed, with the lead taken under Component 1.4.
5. Regarding leveraging funds for improved international surveillance, it was recommended to proceed with caution and to report back to the next Session on the outcome of the pilot round of the FASTA process.
6. The need to increase the uptake and application of the PCP, at regional and national levels was recognised. The Committee gave general encouragement to exploration by the Secretariat of alternative routes to disseminate the PCP-FMD approach. The broadcasting of webinar series, the development of e-Learning modules and courses, establishing a Knowledge Bank including Job Aids was supported as potential ways forward to effectively disseminate the PCP-FMD approach to large groups of stakeholders from both the public and private sector.
7. The EuFMD training programme was also recognised as making a contribution to continuing professional development (CPD) of national public service officials in Europe. The requirement for CPD of veterinarians in the neighbourhood countries is limited, and EuFMD training contents could be examples that could assist competent authorities to roll out CPD to their officers using the “cascade training“ model.
8. Greater attention must be given to obtaining up to date information on virus circulation in South Asia, especially India, and the identification of effective vaccines. The real-time training programme in Nepal has provided a useful opportunity to ensure samples are collected and submitted for typing, but a more strategic approach to ensure active South Asian participation in FMD surveillance is required. The Regional Support Unit (RSU) to SAARC countries could play an important role, and South Asia should be prioritised for more attention under the Pillar III networking and training action plan.
9. Regarding co-ordination of FMD prevention and control in the Trans-Caucasus countries, the pilot programme proposal from the Russian Federation on six countries involving into the entire animal population vaccination was appreciated. Recognising the investment and commitment of each state, and the need for clarity and commitment on future national surveillance objectives and progression in the PCP, a meeting involving the representatives of Georgia, Armenia, Azerbaijan, Turkey, Iran and the Russian Federation should be convened during the OIE General Session held later on this year in May 2016. The EuFMD could provide the Secretariat for the meeting, and would co-ordinate this with OIE, FAO and EC.

10. The following requests from the GF-TADS Working Group for the inclusion in the work-plans under Pillar III were endorsed:
    a. PCP Training for FAO and OIE staff to improve the awareness, and increase the appropriate application of the PCP-FMD tool, with the ultimate goal to have all regional / sub-regional officers being able to provide guidance to countries and to better follow-up their respective regional roadmap.
    b. Revision of the PCP-FMD guidelines and associated questionnaires, by building on the experiences gained and to include Component 2 of the FMD Global Strategy (Strengthening Veterinary Services).
    c. Guiding materials for FMD control plans required such as templates for control plans - to support countries willing to progress to PCP Stages 1, 2 and 3 and to advance in their PCP stage, and including the post-vaccination monitoring (PVM) and the socio-economic guidelines.

d. Assistance in the processes of acceptance of Regional Leading Laboratories in particular in North Africa, Eastern African and Western Africa.
e. Relating to REMESA, the OIE proposal that EuFMD be represented on the Steering Committee of the regional vaccine bank for North Africa, and also provide an expert to the workshop on development of a regional vaccination strategy, were supported.

11. The five proposed priorities for support under the Fund for Applied Research were endorsed, for inclusion in the calls for research to be conducted in the first 24 months of Phase IV.
12. Regarding the development of diagnostic bank, the idea of focussing initial development to the FMD free, non-EU countries (i.e. western Balkans) was endorsed, with the lead taken under Component 1.4.
13. The Secretariat was authorised to continue to support on an interim basis the initial activities of the Phase IV EC programmes from MTF/INT/011/MUL, on the understanding that these costs could be charged to the EC funds, with backdating until 1st October 2015.
14. The 92nd Session of the Executive dates are proposed as 26-27 September 2016, in Paris, France.

Appendix 2

European Commission for the
Control of Foot-and-Mouth Disease

Summary REPORT of activities

April - Septembre 2016

Summary Report

of the activities conducted under EC funding

(Phase IV, March –September 2016)

Full six-month report (c. 110 pages) is provided separately

	Delivered	Planned
Pillar I: Improving emergency preparedness among the Member States		
1.1 Training	**Real Time Training** in Kenya was held for 13 participants from Member States in June 2016. **Online FMD Emergency Preparation Courses (FEPc)** have been delivered around 900 veterinarians from Member States on six courses to date. National tailor made online courses were held for: • Spain • France • United Kingdom A workshop on Crisis management and Communications was delivered 13-16 September 2016, in Budapest Hungary.	Next RTT - scheduled for November 2016. We foresee that three Real Time Training Courses will be held in total to meet the demand.
	Technical resources: EuFMD e-Learning Platform The EuFMD e-Learning Virtual Learning Environment now has close to **3000 registered users**. Over 900 people have taken part in online courses since the start of the Phase IV programme, and alongside increased staffing this has also required technical updates to the e-learning site. *Technical resources: webinars* Webinars have been held with increasing regularity, with often more than two held per week.	Increasing user numbers mean that it is now necessary to purchase a license that allows for more than 100 simultaneous users.
	New online self-directed online course "Introduction to FMD" has been developed and will be made available as an open access course alongside the new "Introduction to the PCP" course (see component 2.4). This will take users approximately 30 minutes to complete, and will cover FMD pathogenesis, impacts, diagnostics and simple control measures including biosecurity. It is intended as a taster course for a very wide audience of interested parties.	
	1.1.2.1 Training credits system and needs assessment Response to the needs assessment has now been received from all 37 Member States and the results have been used to support discussions with the focal points on priorities of training selection. To date 334 of the 370 training credits available for training in	Following the needs assessment process, the final training programme for 2015-17 will therefore involve: • Online FMD Emergency Preparation Course: In total fourteen courses will be run in phase IV, of which eight are

	2015-17 have been allocated. See the table below for an update on the courses selected so far by Member States.	national tailored courses and six are generic in English language. • Real Time Training: Three courses planned in total for Member States. • Laboratory Training: • Workshops o Crisis Management and Communications (September 2016) o To vaccinate or not to vaccinate, modeling as a decision support tool (November 2016) o Putting vaccination into practice (in combination with component 1.2) o Simulations exercises (in combination with component 1.4) An online course on risk based surveillance is planned to be developed and delivered to a maximum of three participants per Member State in spring 2017. This course will not involve member states "spending" any training credits
1.2 Cont. Planning	**Activity 1.2.1.1 Contingency planning network** Overhaul and updating on the Contingency Planning Knowledge bank growing and make it more user friendly adding filtering / search engine.	Plan: Continuing with the FMD practical management series. Eight further webinars are planned, once per month, to the General Session (April 2017).
	Modelling network: webinars held	**Continue, + network meeting in Open Session**
	Handbook for planning and preparation of simulation exercises Drafted, under review – September 2016.	**Review, share, online presentation**
	Contingency planning self-assessment tool: evolved under 1.4, potential wider use.	**Revise after review, present to MS**
1.3 THRACE	**1.3 Regular analysis of the active surveillance carried out for FMD and other TADs and reports of such activities shared between countries and institutions** The FMD freedom in the Thrace region is constantly on the high level, which constitutes in average 97.9% in the 3rd cycle and 98.91% in the 4th cycle of 2015 respectively. The data on clinical and laboratory surveillance for the SGP and PPR were provided. The cycle reports sent to the National Focal Points for the approval and subsequent discussion at the management meetings.	**3.1 Studies implemented to provide evidence on effectiveness of FMD and other TADs vaccination in the Thrace region.** Activity is in the planning phase. Analysis was performed on: a) the likelihood of incursion of trans-boundary diseases in different areas; b) the likelihood of failure to rapidly detect the disease, and c) the consequences of failure to detect, in terms of the expected number of secondary outbreaks.

	The FMD freedom in 2016 1st and 2nd cycles were on average 98.7%, but was observed to drop in the confidence of disease freedom in Bulgaria, which is mainly related to the delay in delivery of the laboratory diagnostic kits for FMD testing, which without a results of test performed directly influence the confidence of FMD freedom. The data on clinical and laboratory surveillance for the SGP and PPR were provided. The cycle reports were sent to the National Focal Points for the approval and subsequent discussion at the management meetings.	The plans were to evaluate effectiveness of LSD vaccination campaign provided in Thrace region of Turkey, but due to not receiving official permission from the government of Turkey, activity postponed
	The Workshop "**Practical Training on Vector transmissible Animal Diseases – from Theory to practice**" was carried out in Stara Zagora, Bulgaria, in the region, where Lumpy skin disease (LSD) outbreaks have been previously detected and for the practical part of the workshop one farm with already vaccinated cattle's have been chosen.	**Issues to resolve:** Tripartite meeting have not been organized since August 2015 Common agreement with Turkey for the possibility implement study aimed at investigation of the immunity status after vaccination in the Thrace region of Turkey.
1.4 Balkans	*Simple self-assessment tool for contingency planners* In addition to proposed training for Balkan countries under Component 1.1, a **self-assessment tool** was developed to allow countries to assess their country's FMD preparedness gaps and needs. Through highlighting specific gaps in contingency plans, and, through automatic feedback pointing towards resources, training and contacts to address weaknesses, the tool aims to facilitate self-driven contingency plan assessment and improvement in the Balkan region.	
	Laboratory simulation exercise across Balkan countries: - *Implemented 2016, completed and reported* - *Refer to full Report of Component 1.4*	**From the results of the simulation exercise, three key gaps to address in the future are:** - Facilitation of delivery of diagnostic materials to non-EU countries. - PCR capacity building as well as training in PCR trouble-shooting.

	Priorities next six months, by outcome **Outcome 1: Confidence in the coordination framework for western Balkan countries as a tool to ensure the continuous development, testing and improvement of national emergency management plans, and to ensure sufficient FMD laboratory capacity for crises** **1.1.** Maintain regular contact with National Focal Points and laboratory sub-network contact points. **1.2.** Continue to deliver EuFMD Practical Webinar Series as planned. **Outcome 2: Contingency plans for FMD agreed at national level and tested through at least one exercise. Contingency plans comply with EU legislation.** **2.1.** Deliver an online meeting, presenting the final report of EuFMD Laboratory Simulation Exercise 2016. Present the self-assessment tool for contingency planners and the handbook for planning and preparation of simulation exercises. **2.2.** Provide assistance and guidance to continue development of Contingency Plans and Operational Manuals for FMD. **2.4.** Prepare and organize a follow-up workshop to the first simulation exercise in order to provide a platform where the outcomes can be discussed and further issues and needs can be raised by the participants. **Outcome 3: Integration of national FMD reference centers (laboratories) in the national CPs and establishment of a system of immediate regional diagnostic support for an FMD crisis** **3.1** Follow-up activities for the Balkans laboratory simulation exercise will be decided on based on the conclusions of the exercise (described above). Possible follow-up training will take place in two groups: 1. Montenegro (can be host country and host the other countries for laboratory training), Bosnia and Herzegovina, Kosovo, Moldova, Albania; 2. Bulgaria, Croatia, Greece, FYR of Macedonia, Romania and Serbia. The details on the training and the possible training scenario were discussed during the visit of EuFMD STP Miriam Casey in early September in Brescia, IZSLER. Detailed follow-up training should be designed and presented to potential participants in the Balkan laboratories. **3.2** Circulation and discussion of the general laboratory simulation exercise report with gap analysis.	
1.5 Research	Meeting under the Standing Technical Committee, on vaccination to live issues Paper developed for the Open Session Planning of the Open Session 2016	**1st call for the EuFMD FAR Fund** **Open Session 2016 –Portugal**
1.6 Emerg.	No emergency actions in the period	

1.7 PTS	2016 Proficiency test service has been rolled out according to pre-agreed plans with EU-RL at Pirbright. Reporting will be by the WRL.	Discussion on the 2015 Results and progress with 2016 will occur at the Open Session 2016.
1.8 Risk	**1.8.1 System established and routinely operated to update and communicate the antigen bank priorities based on risk information gathered Pillar 1 to 3 activities, and others:** The PRAGMATIST tool, developed between EuFMD and Pirbright, was used to provide guidance to EC on replacement of stocks. **1.8.2 System established to ensure that changes in FMD incidence and FMDV circulating lineages/threats in the virus pools is communicated to surveillance managers:** The Global Monthly Report (GMR) monthly report has been produced on a monthly basis by Dr Maria-Teresa Scicluna.	The activity: development of the livestock meat price monitoring system as a component to inform risk assessment – now planned for development November-December 2016.

Pillar 2: Reduced risk from the European neighbourhood		
	Delivered	**Planned**
2.1 Turkish Neighb.	**Component 2.1** TransCaucasus Regional Cooperation Meeting in Paris on the 25 May 2016, during the 84th General Session of the OIE. Agreement reached on co-operation in reporting of FMD and other diseases, and on surveillance planning, and capacity building.	**Priorities** *Turkey:* • Continue delivery of remained 1 week of epidemiology training and a workshop for Marmara and Aegean regions veterinarians. Further discussions with GDFC regarding epi-network. • Follow-up new RBSP and zonal surveillance strategies *Georgia and neighbours:* • Moving to the establishment of PCP stage 3 zones in Racha-Lechkhumi-Kvem Svaneti region (RLKS) of Georgia and Nakhchivan Autonomous Republic (NAR) of Azerbaijan. • Regional workshop on surveillance and information share, with involvement of Iran and Turkey. *West Eurasia:* • Continue with Practical Management Webinar series. Develop West Eurasia Webinars e-learning page as a mean for better information exchange in the region and communication between experts and participants. • Organization of FEPC (FMD Emergency Preparedness Course) in Turkish language, adapted for endemic countries • Follow-up on the integration of Empres-i and EIDSS systems and a development of regional database. • Training needs assessment in Pillar II countries, including number of West Eurasia countries.
	Transcaucasus Regional Foot-and Mouth Disease (FMD) **Simulation Exercise** held in Georgia on 12-15th of July 2016, organized by EuFMD. The countries participating in the Simulation exercise were Georgia (EuFMD member state), Azerbaijan and Armenia. Neighboring Turkey, Iran and Russian Federation were invited as observer countries. Iranian observer couldn't participate in the exercise. The exercise was an inject-driven desktop type simulation exercise combined with a field response focusing on outbreak management. The desktop simulation part was held in Borjomi, Georgia, while for a field activity Mirashkhani village (Aspindza district) situated on the border with Turkey was selected.	
2.2 Israel neighb.	**Output 1. Risk-based Strategy Plans (RBSP) adopted, implemented and monitored in Egypt** EuFMD support for 2015-2017 will focus on M&E of their RBSP with regard to implementation and impact. GOVS Egypt produces now monthly reports with relevant data of passive and active surveillance activities and also a big shipment supported under	**Priorities for the next six months** • Solving the contractual issues with US-DOS/LLNL and starting several training activities in Egypt • Continuing PCP/RBSP work in Jordan • Continuing PCP/RBSP work in Lebanon

	this component has recently been received and analysed in Pirbright, illustrating the predominance of African O EA-3 strains, the absence of O Ind2001 strains and the continued presence of SAT2 and A Africa strains. **Output 2. Risk-based Strategy Plans (RBSP) adopted, implemented and monitored in Palestine and Israel** Workshop held in September 2016. **Output 3. Risk-based Strategy Plans developed and PCP-FMD progress achieved in Jordan and Lebanon** In Jordan the first workshop has been carried out in April 2016 by EuFMD consultants Kees van Maanen and Mounir Khayli and a second workshop is planned for October 2016, in Lebanon the first workshop was carried out in June 2016 by EuFMD consultants Chris Bartels and Mounir Khayli and a second workshop is also planned for October 2016.	• Planning a joint workshop on strategic surveillance and strategic vaccination for Israel and Palestine in Q1 of 2017 • Integrating webinar/e-learning activities for the Near East with similar already started activities under component 2.3 (support to REMESA).
2.3 REMESA	**Outcome 1: Progress to develop, adopt and implement Risk Based Strategic Plans for FMD control in Libya and Mauritania, and capacity to achieve and maintain PCP Stage 3 or 4 in Morocco, Algeria, Tunisia** a. two on-line meetings have been organized with Algerian, Tunisian and Moroccan focal points for FMD surveillance (identified during the workshop) in order to design a new serosurveillance with the objective of assessing whether there has been ongoing transmission of FMD virus in the small ruminant population in Algeria, Morocco and Tunisia since the most recent assessment carried out during b. A workshop has been organized in Mauritania from 30th May to 2nd June 2016 with the aim to assist the veterinary services of Mauritania for the development and implementation of a **Risk-Based Strategic Plan (RBSP) for FMD control** c. Assistance for the design, implementation and evaluation of a **desktop simulation exercise** on FMD with practical biosecurity exercises. The exercise was held in Tunisia on 6-8 April 2016	**Priorities** 1. Maintain the **collaboration and coordination** established with **FAO and OIE** in order to provide proper join assistance and support to the development of a regional FMD control strategy; 2. Continue the follow up on the **targeted and harmonized serosurveillance** in Morocco, Algeria and Tunisia; 3. Finalize the **development of RBSP in Mauritania** and promote a **regional laboratory network** 4. Support the development of the **coordination framework** - REMESA networks (webinar series); 5. Establishment **mutual cooperation with training providers** in the area (e.g. Veterinary Faculties) to improve the capacity to address training needs and the impact of the training activities. 6. Support the development of **vaccination self-assessment tool,** assist the design and implementation

	d. development of a draft paper on "vaccination strategy in North Africa" with the countries involved (Algeria, Morocco, and Tunisia) in order to promote the development of a vaccination programme with risk based approach*, following* the workshop organized by OIE on " **harmonisation de la stratégie de vaccination contre la fièvre aphteuse en Afrique du Nord** " held in Tunis (March 2016).	**of field vaccine studies,** and promote **risk based vaccination strategies.** 7. Assist the implementation of activities aimed to improve **emergency preparedness**
	Outcome 2: Coordination framework in place to facilitate communication, review and guide upon activity implementation nationally and regionally as needed to progress the REMESA Strategic Plan. Establishment of surveillance measures aimed improving security of sanitary barriers between countries or zones with different FMD situations a. EuFMD attended the **REMESA JPC meeting** held on 10-11th May 2015 in Toledo, Spain.. b. A **series of webinar** already implemented: 1 Construire une stratégie régionale pour le contrôle de la fièvre aphteuse en Afrique du Nord [French] *(December 2015 - 65 participants)* 2 La détection précoce: la sensibilisation, la surveillance primaire et coopération entre les acteurs [Arabic] *(February 2016 - 45 participants)* 3 Enquête épidémiologique des foyers de fièvre aphteuse et traçabilité des animaux: expériences d'Afrique du Nord [French] (*16 May 2016 – 20 participants)* 4 La biosécurité au niveau des exploitations: ce qu'il est faisable et efficace en Afrique du Nord [Arabic] *(16 July 2016– 45 participants)* 5 La confiance dans l'absence de la maladie : surveillance sérologique basée sur les risques et la détection précoce [French] (15 *September 2016).*	

	Outcome 3: System in place to provide improved disease risk information for planning of vaccination programmes, including vaccine banks, to support managers in REMESA a. A draft project for a **field study on "vaccine effectiveness**" has been developed and proposed in July 2016 to Algeria, Morocco, and Tunisia designed in collaboration with OIE Tunis and IZSLER **b.** Under the request of Algeria, and help of Pirbright: EuFMD assisted the implementation of **field and laboratory vaccine stability tests** aimed to assess the stability of MSD FMD vaccine stored in the country	
2.4 Pillar 2 Training	*Training needs assessment* The needs assessment procedure was adapted for use in Pillar II countries and send to all countries involved in pillar II activities in three languages (English, French and Russian). The training needs assessment was returned by 19/23 countries. Full results in the Component 2.4 Report The primary needs for additional training are with the subjects of - FMD diagnosis, sampling, investigation and biosecurity by field level veterinarians and para-veterinarians - Socio-economic impact assessment- central veterinary services - Risk analysis along the value chains- central veterinary services - Basic Biostatics and Epidemiology- central veterinary services - Laboratory diagnostic testing - Biosecurity measures- particularly at field level - Post-vaccination monitoring **Assessment of existing training courses** The needs assessment process has identified a number of existing training resources and providers in the region, and also those academic institutions who may be suitable to act as local delivery partners (see 2.4.1.6). This research is ongoing.	**Priorities for the next six months** The key priority in the next six months will be the development of training materials and courses on subjects identified by the needs assessment. A plan, timescale and budget for new training to be developed and delivered will be drawn up. A second key priority is to launch the PCP e-learning course and safeguard widespread dissemination, accessibility and use. It will be an important cornerstone to further establish

Pillar 3: Supporting the Global FMD control strategy		
	Delivered	**Planned**
3.1-3.2 PCP support	**Outcome 1: PCP toolbox further developed for PCP-FMD user community, including norms set, guiding documents developed for joint FAO/OIE application:** The revised version of the PCP guidelines have been submitted to the FAO/OIE FMD Working Group for review and comments. **Outcome 2: System for training PCP-FMD experts well established, and as part of the GF-TADS led implementation of the GF-TADS strategy, contributes to national and regional PCP progress** a. Needs for PCP-FMD training in Asia and Africa (activity 3.2.2.1) are investigated in part with components 2.4, 3.3 and 3.4. EuFMD experts contributed to the analysis and interpretation of the needs-assessment questionnaire for the Pillar II countries (see component 2.4) and a similar approach of conducting a needs assessment is performed for the SADC region as part of activities under component 3.4. **Outcome 3: The GF-TADS system for PCP assessment is maintained and/or further improved, and the quality and impact of regional roadmap meetings in at least 3 regions further improved** a. In September, the first regional roadmap meeting for FMD control in West Africa took place in Togo. EuFMD developed and co-presented two pre-meeting webinars (in English and French) to inform forthcoming participants on issues of "What is the PCP-FMD?" and "What can be expected from a Regional Roadmap meeting with FAO and OIE?A total of 27 participants attended both webinars. b. During the meetings under **a** and **b**, EuFMD provided active guidance on the PCP-FMD assessment procedure. In each of the meetings, a EuFMD STP joined to provide support in organizing logistics, translation and support to the assessment procedure. Concurrently, this exposure will help each of the STPs to assist in organizing and facilitating similar meetings in their region of origin (North Africa and Southern Africa).	**5-Issues for Executive Committee attention arising during implementation** Implementation of planned activities under this component relies very much on the activities and the decisions of the FMD-WG, in particular with regard to training of PCP-FMD experts, country follow-up after regional roadmap meetings and points for improvement as discussed in the post-meeting evaluation. The FMD-WG is meeting twice a year about which EuFMD in principle is informed. It would benefit coordination of activities if EuFMD was provided the status of observer to these meetings.

3.3 Global FMD surv.	**Component 3.3** is largely delivered through the Pirbirght WRL contract - New LOA with Pirbright under negotiation - Activities will be reported by the WRL , in their six-month report to the Executive (and their three-monthly summary reports). - The **EARLN-EAREN activities** are being consolidated through a series of webinars, held on a 2-month interval basis, managed by Drs Van Maanen and Scicluna. Webinars done include PCP-FMD in West Africa; Introduction to Risk Based Strategic Plans; Economic impact of FMD; Advanced outbreak investigations; Risk based surveillance; Biosafety and biosecurity at all levels for FMD surveillance, control and eradication.	**Priorities for the next six months** **The topics for the EARLN-EAREN webinars include:** Vaccine selection issues - which considerations for selecting appropriate vaccine strains; Vaccine performance: how to evaluate how well a FMD vaccine protects livestock; East Africa Wildlife and FMD: What implications for the PCP?; Interpretation of FMD lab results - serology/genotyping/vaccine matching tests; Vaccination strategies in emergency & preventive situations; Early detection, awareness, primary surveillance and cooperation between stakeholder; Stakeholder identification and consultation: importance of involving public and private stakeholders; Value chain analysis: good understanding is the basis for understanding disease transmission; Biosecurity webinar with special reference to those to apply in the field and especially on disinfection procedures.
3.4 P3 Training	**3.4.1.3 Existing training resources are researched training needs assessment carried out in regions identified in Africa** The training needs assessment developed for Pillar II countries under component 2.4 has been modified to make it applicable to the region and has been sent out to regional contacts. Responses are expected in September 2016. These responses are important input for developing the e-learning course and webinars.	**Priorities for the next six months** **Activities in Southern Africa** Following the needs assessment, an existing e-learning course (developed under 2.4) will be adapted and delivered in the region (**activity 3.4.1.4, .7 and .9**). The delivery of the first e-learning course will be an important part of the needs assessment process in itself, since it allows direct comment and discussion with target audiences in the region. The STP will work in close collaboration with the FAO Sub Regional Office for Southern Africa, with the aim of improving the office's capacity to continue to deliver online courses and resources with progressively less direct input from EuFMD. Such establishment of a model for sustainability of regional training is a key part of this
	3.4.2.1 Develop webinar series and network for global PCP practitioners New e-learning series has been developed in 2016, and a pilot phase of the PCP e-learning courses undertaken for evaluation of the course. A webinar series and associated Global PCP Practitioners' Community has been planned to launch alongside the PCP-FMD e-learning courses (funded under component 2.4). Webinars were held in September as a consultation with "pioneers".	

	3.4.2.2 Support regional networks in target regions identified under 3.4.1, and provide assistance to networking activities in other regions if appropriate Wilmot Chikurunhe (STP) has started work on defining how best to support regional SADC network. This work will be complemented by the responses of the needs assessment complemented by his experiences and contacts with people in the region. **3.4.2.3 Assist collaborating organizations to develop a sustainable system for training** For the SADC region, the FAO Sub Regional Office for Southern Africa will play in important role to ensure long term sustainability of regional training initiatives. For that purpose, the STP maintains strong links with FAO for this region and is exploring partnerships with academic institutions in the region. **3.4.2.4 Research additional sources of funding to support training** EU funded LinkTADs project (Linking Epidemiology and Laboratory Research on Transboundary Animal Diseases and Zoonoses in EU and China) will cover an adapted online FMD Emergency Preparation Course to be delivered for colleagues in China in Sept 2016	component, but a challenging one (**activity 3.4.2.3**). **Activities in South Asia** Following the completion of the interview process, It is foreseen that the STP will take up activities in the SAARC countries starting from November 2016. (**activity 3.4.1.2**) **PCP Practitioners' Community** The launch of the PCP Practitioners' Community is anticipated to take place in October to coincide with the releases of the PCP e-learning and will involve a dedicated event at the EuFMD Open Session. The network will be "launched" with the first of a series of webinars, widely publicized to target audiences (**Activity 3.4.2.2).** **Researching additional sources of funding** Activities will continue to seek additional funding to support the activities of **component 3.4** will continue, in close collaboration with regional partners.

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Appendix 3

European Commission for the
Control of Foot-and-Mouth Disease

Position Paper on FMD vaccination to live issue

EuFMD - STC | Standing Technical Committee

Position paper on FMD vaccination-to-live issues

Follow-up from STC vaccination-to-live sub-committee meeting of 8th June 2016, Maisons-Alfort

STC vaccination-to-live subcommittee: Stephan Zientara (Chair), Donald King, Labib Bakkali Kassimi, Emiliana Brocchi, Eoin Ryan, Kris de Clercq

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Introduction

The use of vaccination-to-live as a control strategy for FMD after incursions in countries or zones previously free of FMD without vaccination is complicated by a range of uncertainties surrounding the impact of this policy on the subsequent process to regain official OIE FMD-free status and on the implications for external and internal markets. The EuFMD Standing Technical Committee established a sub-committee chaired by Dr Stephan Zientara to explore this topic further. This position paper sets out the opinions of the sub-committee, discusses a range of options to resolve some of the issues, identifies evidence gaps, and suggests follow-up actions to progress the debate in this area. The ultimate objectives are:

1. To provide more clarity for decision makers on the implications of selecting vaccination-to-live as a strategy for FMD control

2. To make vaccination-to-live more feasible as a control option for FMD outbreaks in previously free countries.

Drivers for this review

Vaccination-to-live is an important tool for FMD control, which may facilitate the resolution of outbreaks with fewer animals culled in line with increasing public expectations of animal welfare norms and sustainable agricultural systems. However, there is a perception that decision-makers in some European member states are reticent to select this as a strategy for control. Therefore, we consider it timely and important to revitalize this option in the mind of policy makers and state veterinary services.

Recent FMD outbreaks in previously free countries

In Bulgaria in 2011, vaccination was not used; the outbreak was geographically confined and wild boar were epidemiologically implicated, so vaccination would not have been appropriate as a tool in those circumstances.

In the UK in 2007, suitable vaccine was available but as the cases were in a restricted area within a low livestock density region vaccination was not considered necessary.

In Japan in 2010, vaccination-to-kill was used on 1066 farms (126,000 animals) as a fire-break when the outbreak began to get out of control. There was no legal basis in Japanese law to allow vaccination-to-live at that time.

In the Netherlands in 2001, vaccination-to-kill was used, with vaccinated animals' blood tested before inoculation and slaughtered in an orderly manner post-outbreak.

A series of recent outbreaks in the Republic of Korea have highlighted the difficulties of using vaccination in pigs to control FMD outbreaks (as reviewed by Lyons et al., submitted).

Ethical issues

It is widely recognised that, across Europe, public tolerance for controlling FMD outbreaks by culling-alone has decreased; in some countries (e.g. the Netherlands) it is so low that vaccination-to-live is very likely to be chosen as a control strategy. The general perception is that this change in public tolerance has been mainly driven by animal welfare concerns; however, it is reasonable to also consider the impact of disease control strategies in terms of environmental sustainability.

The environmental sustainability of livestock production systems is a relatively recent area of research but one which rightly attracts considerable attention from scientists, policy makers and consumers (Capper, 2016). The

carbon footprint of livestock culled and unconsumed due to either culling or vaccination-to-kill ought to be considered alongside other costs, and the converse environmental benefits of obtaining usable food from livestock which are vaccinated-to-live ought to be considered alongside other advantages. Additionally, burning or burying cattle or pigs is considered a serious source of pollution in many cases, diverting carcases towards rendering where there may be issues of capacity.

When all the livestock on a farm are culled and the farm subsequently restocks with animals from different sources, there are often significant problems with endemic and production diseases, as well as a loss of genetic resources, which adds a further environmental impact to meat and milk production from those farms.

Certainly, countries or regions which use sustainability or carbon counters for livestock production as a significant part of their marketing strategy would be wise to integrate this into their decision making strategy for FMD control.

Evidence gap:

- *The attitude of European consumers to culling/vaccinate-to-kill versus vaccinate-to-live*
- *The environmental/carbon emission implications of culling/vaccinate-to-kill versus vaccinate-to-live*
- *The impact of the requirement that meat from vaccinated animals cannot be marketed out of the MS concerned on consumer perceptions*

The evolving regulatory environment

The legislative controls on animal disease are evolving, as witnessed by the changes with regard to bluetongue disease vaccination in several countries and the associated discussions at EU level. The new animal health law will soon come into effect [more on this here]. At OIE level, changes in the FMD chapter have been proposed by the FMD Ad Hoc group prior to the recent General Session, although no substantive changes with regard to vaccination to live were accepted yet. Further discussions are ongoing in this *ad hoc* group and in the Scientific Commission related to the waiting periods to recover freedom after applying a vaccination to live strategy (as discussed in Paton et al, 2014). It is an opportune time for FMD experts to make the case in favour of changes to facilitate vaccination-to-live as a control strategy.

The decision making process with regard to FMD control strategies

When confronted with an FMD outbreak, decision makers in FMD-free countries would generally implement certain measures automatically, such as movement controls, culling infected farms, tracing dangerous contacts and enhancing biosecurity. These can be regarded as “policy default settings” for FMD control.

However, the decision on whether or not to use vaccination-to-live is an active choice, in the sense that it involves choosing to do something extra which is a policy option, not a policy default position. Additionally, the decision to vaccinate is time-sensitive, since the likelihood of a successful vaccination campaign is increased if vaccination is started promptly [ref the Danish paper where the decision had to be taken within 14 days]. In an environment of high uncertainty where there is low tolerance for failure (such as an FMD outbreak), decision makers may be more likely to either postpone a decision on vaccination or opt for the default position.

In most countries, a decision such as this would be influenced by a policy network. The opinions of the farming and supermarket lobbies would be influential, particularly in relation to their economic analyses of the likely impacts, and whether or not there would be a market for food products from vaccinated animals. Currently, meat from vaccinated animals cannot be marketed outside the relevant member state; this may create

logistical difficulties for processors and therefore cause resistance to handling any vaccinated animal products. Furthermore, for some countries, the additional three months taken to regain FMD freedom when using vaccination-to-live would be a significant concern.

The decision may also be heavily influenced by the outcome of modelling; gaps in modelling capacity, such as how to estimate the efficacy of imperfectly matching vaccine strains, must also be addressed. Reducing the uncertainties on these issues through analysing them in advance and engaging the wider policy network in the discussion would assist veterinary decision makers in selecting vaccination-to-live where that policy is appropriate.

At a more technical level, the risks posed by vaccinated ruminants which are FMD carriers is a source of additional uncertainty for decision makers and feeds into the status quo on the time required to regain FMD-free status. A more proportionate and evidence-based analysis of this could also assist decision makers and support a change in overall FMD control policies at international level.

Evidence gap:

- *The attitudes of European farming and supermarket organisations with regard to the marketing of animals (and animal products) vaccinated against FMD*
- *The benefits and costs of removing the limitation in trading milk and meat from vaccinated animals within the EU*

Economic issues

It is clear that there are several significant economic aspects to the issue of vaccination-to-live where reducing the uncertainties and clarifying the potential impacts would be helpful. It should not be assumed that what is most cost-effective for one country will also be cost-effective for another, unless they are similar in the relevant attributes.

Evidence gap: An economic study looking at the potential benefits and costs of using vaccination-to-live would be useful, including the impact of country variables such as the proportional contribution of the livestock sector to GDP and the balance of livestock product exports versus internal consumption (for instance comparison between UK and Ireland). This analysis should also take into account the impact of any reduction in the time to regain official FMD free status.

It is important to convince large food retailers that there is no impediment to the marketing and consumption of meat/milk from vaccinated animals. However, it is also the case that the big supermarkets routinely set out their own criteria for purchasing meat and milk products based on their own commercial decisions (e.g. cattle of a certain size or age), and the risk that some may seek to market meat as “non-vaccinated” could introduce further uncertainty into the decision making process, as well as reducing the value of vaccinated animals post-outbreak. Conversely, retailers may see value in the sustainability and environmental/animal welfare credentials of supporting a vaccinate-to-live policy which consumers are likely to favour.

The perception that occult carrier vaccinated animals may pose some risk (however tiny that may be in reality) through the potential presence of FMDV in the oropharynx could be mitigated as regards the risk from animal products by the removal and disposal of the entire ruminant head as category 1 material. It is worth noting that under existing EU TSE regulations, the tonsils and skull (excluding the mandible, including the brain and eyes) of ruminants older than 12 months are specified risk material in any case, so the additional cost of disposing the entire head is confined to the tongue, masseter muscles and mask.

Allocation of costs and responsibilities

Recognising that these decisions are usually taken in the framework of a policy network (which may be formal or informal) consisting of the veterinary services, stakeholders, technical experts and politicians, it is worth considering fresh ways to address cost sharing and responsibilities, as has been done in Australia for the vaccination issue (Animal Health Australia, 2015; Matthews 2011). Costs range from maintaining an antigen bank to the reduced value of vaccinated animals post-outbreak. Different sectors of society will bear the costs and benefits of the various choices. Bringing stakeholders into the discussion can help to build awareness of what the implications are of vaccinating or non vaccinating, thereby increasing the likelihood of consensus if the decision needs to be made in the face of an outbreak.

Post-outbreak sampling strategy for serosurveillance

Further clarity is required to outline the design of the optimal sampling strategy used for serological surveillance that is adopted to look for undisclosed virus circulation in the vaccinated population.

The importance of a valid sampling design must be emphasised and supported by expert advice so that it is easily available and recognised when needed. Within the EU, all vaccinated animals must be tested when vaccination-to-live is adopted.

Any revised regulations should require a quality control element based on such a tool to ensure effective surveillance design. All susceptible livestock species (including unvaccinated species) should be included in surveillance plans, particularly sheep, where clinical FMD may be difficult to observe and where the quality of animal identification and movement systems is not as good as for cattle.

Specific guidelines emphasising the importance of data interrogation for NSP survey results are needed, especially in relation to detecting spatial clustering and the extent of positivity of surveillance samples. Testing of oropharyngeal fluid samples taken by probang cup is not an effective method for ruling out an FMD carrier state in vaccinated ruminants. Surveillance strategies should be modified accordingly, possibly via the use of complementary NSP assays.

Evidence gap:

- *Develop a tool for veterinary services for post-outbreak sample design which accommodates design prevalence and the sensitivity and specificity of tests*
- *Develop guidelines for the interpretation and analysis for large scale survey lab results with follow up actions indicated for various scenarios.*

Quality assurance for vaccination and surveillance

The quality of the implementation of vaccination-to-live and of the design and implementation of the subsequent post-outbreak surveillance, including post-vaccination monitoring, are critical to the success of FMD control and to the assurance of confidence in such control to trade partners, yet the criteria by which these can be evaluated have not yet been fully worked out.

Evidence gap:

- *Develop criteria for evaluating the effectiveness of the implementation of vaccination by the veterinary services*

- *Build on the post-vaccination monitoring guidelines recently issued by FAO/OIE to demonstrate that animals have sufficient protection following vaccination*

- *Develop criteria for evaluating the quality of the design and implementation of post-outbreak serosurveillance where vaccination-to-live has been used.*

Technical issues for reference laboratories

FMD NRLs, supported by the EURL/WRL and OIE/FAO reference laboratories, need to be able to provide the capacity to deploy appropriate SP tests to evaluate the serological response to vaccination, as part of the quality assurance process.

The ongoing work of the EURL/WRL and others in validating additional NSP tests is important and should continue, as it will help provide a pathway for alternative testing of animals which test positive during post-outbreak serosurveillance and will help address the diagnostic gap where vaccinated animals test NSP positive but the diagnostic performance of probang testing is unsatisfactory.

There is a need for validation of SP ELISA tests which will be needed for post-vaccination monitoring. Validating SP kits for the detection of antibodies generated by vaccine antigens is a crucial element of demonstrating the efficacy of the vaccination program.

Evidence gaps:

- *Availability of <u>validated</u> NSP kits from different commercial suppliers to provide critical capacity and redundancy to European NRLs.*

- *Matching of SP tests with vaccines: initial work can be done as a desktop collaborative exercise by reference laboratories. Any remaining gaps could be addressed in the context of an inter-laboratory research project funded by EuFMD, with a view towards SP kit validation.*

Advocating for changes to trade rules relating to vaccination-to-live

Recent technical improvements in the field of surveillance (Paton et al, 2014), along with an evolving societal understanding of the animal welfare and environmental sustainability issues of FMD control through culling alone, mean that it is worth taking a fresh look at the international rules governing the regaining of FMD freedom after the use of vaccination-to-live.

It is the opinion of the sub-committee that a six month waiting period following vaccination-to-live does not necessarily provide substantially more confidence in disease freedom in itself compared with a three month period if specific conditions are fulfilled. The quality of the vaccination strategy and implementation, and the quality of the design and implementation of post-outbreak serosurveillance, are likely to have a much more considerable effect on the actual probability of undetected FMD virus circulation than just an additional three months wait.

It is worth considering a proposal whereby, following vaccination-to-live, a country had a compulsory minimum waiting period to regain FMD freedom of three months, with a requirement to then provide either a comprehensive package of quality assurance data and epidemiological analysis demonstrating that it had reached a high level of confidence in disease freedom, or to wait an additional three months (making up a six months total waiting period). This would allow countries with the technical wherewithal to invest in demonstrating a high level of confidence in disease freedom and thus regain FMD free status after three

months, while other countries might choose to continue with a less technically rigorous quality assurance regime and wait the full six months.

In order to make this proposal workable, guidelines need to be developed on the criteria and evaluation modalities for quality assurance in this respect, and who would carry this out.

Evidence gaps:

- *A methodology for estimating confidence in disease freedom using evidence from different surveillance activities, which can support an application for FMD freedom. This can be developed from existing confidence in disease freedom tools designed for other circumstances.*
- *A methodology for integrating quality criteria for vaccination and surveillance into the overall calculation of confidence in disease freedom.*

Constraint analysis

It may be instructive to consider the factors that could inhibit or prevent the use of vaccination-to-live as an FMD control policy.

	Issue	Comment	Data
Technical implementation issues	Availability of an appropriate vaccine matching the outbreak virus	Self-explanatory	WRL reports
	Sufficient doses of the selected vaccine available for use within required timeframe	Self-explanatory	EU vaccine bank data; National vaccine banks (where available); EuFMD vaccine bank surveys; vaccine suppliers
	Contingency plan for vaccinating in an FMD outbreak	The absence of a reasonably detailed CP would inhibit the ability to use vaccination	EuFMD surveys of MS
	Human resources to implement vaccination	Ideally, vaccination teams should be trained and organised in advance as part of CP; training could be done during an outbreak but would divert staff resources from managing the outbreak	EuFMD surveys of MS
	Choice of vaccination strategy – species, spatial design, scale	Uncertainty regarding strategy choice mitigates against the decision to vaccinate	National and European-level modelling of vaccination strategies; EuFMD expert advice; national simulation exercises
	Epidemiological criteria for selecting vaccination-to-live strategy	How to decide when the use of this strategy is appropriate	National and European-level modelling of vaccination strategies; EuFMD expert advice; national simulation

			exercises
Technical surveillance issues	Design of post-outbreak surveillance strategy	Uncertainty about obtaining evidence to support a high level of confidence that occult infected animals are not present could delay regaining FMD-free status	Work of Paton (2014) *Evidence gap: need for tools to assist with design of surveys to obtain requisite confidence in disease freedom.*
	Matching of vaccines with SP ELISA kits	To facilitate demonstration of effective implementation of vaccination	*Evidence gap: European reference labs & WRL could assist*
	Demonstration of the quality of vaccination implementation and surveillance	To demonstrate to trade partners that FMD control was effectively carried out	*Evidence gap: criteria to evaluate the effectiveness and quality of vaccination and surveillance; OIE/FAO PVM guidelines could assist*
	Perceived risk of vaccinated carrier ruminants	This is a function of (a) The scientific knowledge on the risk posed by carriers (b) The ability of post-outbreak surveillance to detect carriers	Scientific literature (e.g. Bronsvoort et al) on the lack of transmission risk from carriers; EuFMD expert advice; surveillance design
Economic impact issues	Under current rules, vaccination-to-live imposes an additional 3 month delay on regaining OIE FMD-free status (3 months versus 6 months)	For export-driven agriculture economies, this is a very significant constraint	*Evidence gap: advocacy and research to argue for a revision of the 3/6 rules in favour of 3 months plus an evaluation of the quality of surveillance and the quality of vaccination*

			implementation
	Comparative economic impact of delayed market access with reduced direct disease control costs if vaccination-to-live used, versus potential faster market access if culling/vaccination-to-kill used	The assumption that culling will result in faster market access can be challenged, since the outbreak may take longer to control; the cost estimates will vary based on country circumstances, proportion of GDP made up of the livestock industry, proportion of livestock product exports versus internal consumption, etc	*Evidence gap: Economic impacts (cost-benefit analysis) of vaccination-to-live in relation to market access for a variety of national economic circumstances (similar to NZ national analysis)* *vs* *implementation of a cull-policy and the consequent compensation that will be paid to culled farms, and associated disposal costs*
	Attitudes of stakeholders to vaccination-to-live, particularly farmers, supermarkets, animal welfare and environmental groups	Stakeholder attitudes will be influences by perceived cost-sharing (state/society/private sector) and the perception of how marketable meat from vaccinated animals is	*Evidence gap: position of supermarkets on marketability/consumer attitudes to meat/milk products from vaccinated animals*
	Attitudes of third countries to re-opening trade post-outbreak	TCs may take longer than the OIE minimum time period to reopen their markets to imports from a country which used vaccination-to-live (or indeed, culling or vacc-to kill).	*Evidence gap: Review of the time taken to regain market access post-outbreak in previous events (as done by NZ)*

Conclusion

This paper has discussed a range of issues which the sub-committee felt had an influence on the likelihood of vaccination-to-live being chosen as an FMD control strategy in a previously free European country. It has attempted to identify areas of uncertainty which could constrain decision makers from selecting this option, and it has highlighted gaps in the evidence or data. If these gaps can be filled through targeted research, this could substantiate the arguments in favour of this control strategy. Finally, it advocates a revision of the trade rules which underpin much of the decision making in this area, so that the choice of using vaccination-to-live as a control tool for FMD is more attractive as an option for veterinary decision makers at national level.

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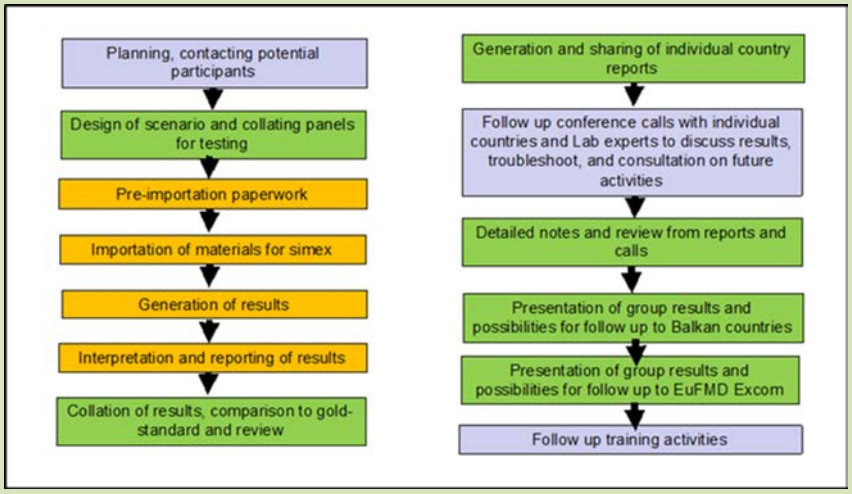
Report from the Balkan laboratory simulation exercise



Overview:

Table showing anonymized country names (please remove for final circulation)

Country	Code
Bulgaria	EU Country 1
Croatia	EU Country 2
Greece	EU Country 3
Romania	EU Country 4
Albania	Non EU Country 1
Bosnia and Herzegovina	Non EU Country 2
FYR Macedonia	Non EU Country 3
Kosovo	Non EU Country 4
Moldova	Non EU Country 5
Montenegro	Non EU Country 6
Serbia	Non EU Country 7

Introduction to laboratory simulation exercise

EuFMD Component 1.4 (Improved emergency management capacity for FMD in the Balkan Region), incorporates activities to support a system of immediate regional diagnostic support for an FMD crisis. As part of this, the EuFMD facilitates laboratory training and regional laboratory simulation exercises. In line with the Component 1.4 work-plan, this report describes a simulation exercise that tested the capacity of ten Balkan laboratories to respond to an incursion of FMD. After several months of preparation, the Simulation exercise was run in April 2016, with follow up activities throughout the summer of 2016.

Gap analysis of Balkan laboratory capacity in 2013 revealed that only one lab in the Balkan region had the capability to perform the minimum recommended tests for FMD (screening and confirmatory antigen and antibody detection tests). Training, provision of resources to enable minimum diagnostic capacity and participation in the laboratory Proficiency Testing Scheme (PTS) were recommended.

Over subsequent years, increased support for procurement of diagnostic materials, facilitation of participation in the PTS and training courses about FMD diagnostic methods and biosecurity were implemented. Following a pilot laboratory exercise, organized in 2015 with the participation of Bulgaria, FYR Macedonia and Serbia, a further EuFMD Laboratory Simulation Exercise 2016 (Lab SimEx) was carried out with the aim of improving laboratory contingency planning capacity with the participation of ten countries mainly from the Balkan region.

The Lab SimEx was organized in cooperation with Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER), and was aimed to simulate the response of a national FMD laboratory to a suspected outbreak of FMD. In contrast to the PTS, that tested delivery diagnostic results from a panel of different serotypes, the Lab SimEx interrogated ability to deal with all aspects of laboratory duties in a realistic FMD incursion scenario.

For the exercise, antigen (Pan-FMD, serotype A, O, C and Asia1) and antibody (A, O and Asia1) ready-to-use ELISAs from IZSLER, “Prio-check” NSP ELISAs, as well as test panels of serum and epithelium were supplied by IZSLER. The French Agency for Food, Environmental and Occupational Health & Safety (ANSES) supplied ready-to-use reagents for the execution of the one-step real-time RT-PCR assay with 3D primers to detect FMD virus genome and beta-actin internal control primers. Countries within the EU were supplied with one-step Real Time RT-PCR reagents and panels. Three EU labs used IZSLER kits available from previous supply by EuFMD, and the fourth used in-house ELISAs passed on polyclonal reagents. Countries from outside of the EU were supplied with ELISAs as well as panels and one-step Real Time RT-PCR reagents.

The **three main goals** of the Laboratory simulation exercise were:

1. To test capacity to rapidly import diagnostic materials;
2. To test capacity to rapidly generate accurate results in the laboratory;
3. To test capacity to interpret results in the context of an epidemiological scenario.

All eleven EuFMD member and non-member Balkan countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, FYR of Macedonia, Greece, Kosovo, Moldova, Montenegro, Romania and Serbia) were invited to participate in the Lab SimEx. Ten Balkan countries (four EU and six non-EU) participated in the exercise. After the exercise, results were collated and assessed by laboratory experts, and individual reports were sent to each participating laboratory. Follow up calls to discuss the results in detail and share ideas about future activities were conducted with nine countries (efforts ongoing to set up a call with the final country). Laboratory experts from IZSLER, EuFMD and FAO were at hand during the calls to give specific feedback and help to trouble-shoot on weaknesses or irregularities in the results or reporting. Feedback and insight from the laboratories was sought relating to their perception of the simulation exercise, on the laboratory’s functionality, and what future activities they would find useful.

Methodology of the laboratory simulation exercise

Figure 1 summarizes the steps in the Lab Simex.

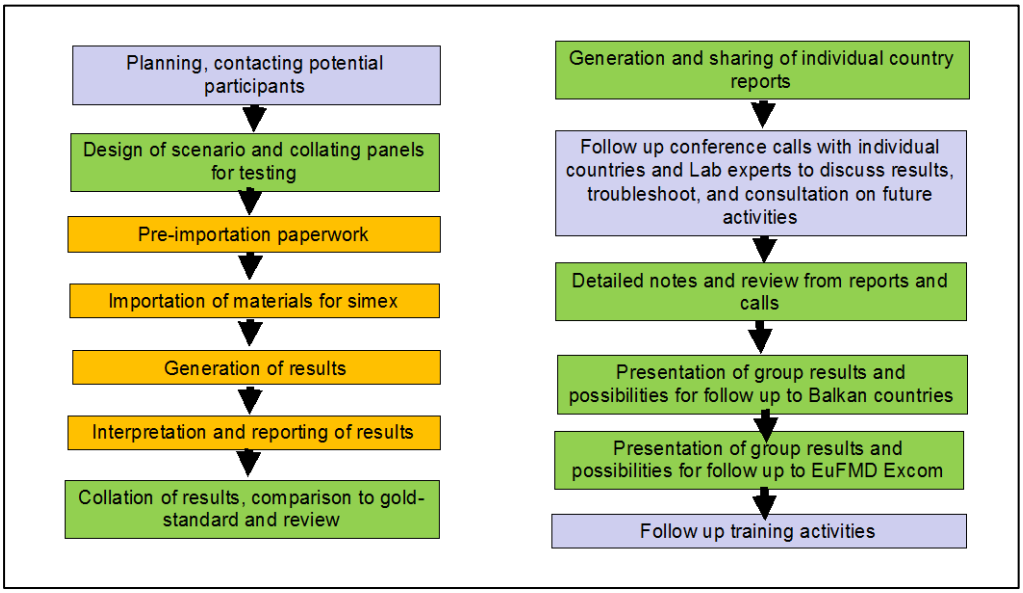


Figure 1: The steps in in the Laboratory simulation exercise 2016.

Methods: Delivery of materials

Over the course of several months, preparations were made for delivery of the materials for the simulation exercise to the participating laboratories. Once the materials left the IZSLER laboratory, the time to delivery in the respective participating Balkan laboratories, and any challenges due to custom delays or for other reasons were monitored.

Methods: Scenario with a corresponding sample panel generated by IZSLER and EuFMD

The following epidemiological scenario and samples (omitting expected results) was presented to the participating laboratories.

Farm 1: An owner of a dairy cowherd reported the development of vesicular lesions in the mouths of several calves following a short history of severe lameness, salivation and milk drop in dairy cows. The veterinarian suspected FMD. Samples from six calves with lesions were sent to the laboratory for confirmation of FMD. The participants were asked to test epithelial samples by FMDV antigen ELISA and by real time PCR. They were asked to test serum for antibodies against the structural proteins (SP) and non-structural proteins (NSP) of FMDV. Three of the lesions were recent, and three were old. Epithelial samples from the three fresh lesions were positive for serotype A on the FMDV antigen ELISA and positive for FMDV PCR. The three older epithelial samples were negative for FMDV antigen and genome. The sera from the three animals with recent lesions were antibody negative (as there was too little time for antibodies to be generated), whereas the sera from the three calves with older lesions were positive on the non-structural protein (NSP) -ELISA (corresponding with infection) and on the serotype A ELISA, one with low level cross-reactivity with serotype Asia1.
Farm 2: Tracing back from the suspected case above, the laboratory received four serum samples from a sheep herd located within 1 km from Farm 1. The samples were collected from four sheep that were recently introduced into the herd with uncertain origin. The participants were asked to test the sera for anti-FMDV antibodies and comment as to whether the samples were from infected animals, and whether or not there was any evidence of vaccine-induced immunity. All four sheep had been vaccinated with a tri-valent FMD vaccine, resulting in positive results for antibodies against structural proteins of multiple serotypes (A, O and Asia 1). One of the four sheep was also positive for NSP antibodies, reflecting that it was or is infected with FMDV sub-clinically, whereas the other three sheep were NSP negative.

Results of the laboratory simulation exercise

Results: Capacity to import diagnostic materials

The four EU countries had no problems with importation of diagnostic assays panels. Of the six non-EU countries, only one had no problems with importation, three countries had a seven day custom related delay in delivery, one had a fifteen day delay, and it was not possible to deliver the test panel for the simulation exercise to Non-EU Country 4. The main constraint on importation to non-EU countries was the need for very specific paperwork (for example confirmation that the kits were not medical devices with acceptance from the internal country authority, importation permits from the country authority, donation letters) to satisfy customs requirements in each country. The DHL shipping agency was not able to deliver biological materials (test panels) to Non-EU Country 4 as it did not fall under IATA regulations. The panels were eventually delivered in person via a workshop. Non-EU Country 6 highlighted that much administration went on behind the scenes over the months prior to the exercise to insure smooth importation of materials for the simulation.
Non-EU Country 7 (the eleventh country) did not take a part in the simulation exercise due to difficulties with the importation of the diagnostic kits; they needed to be registered as medical devices. However, this country regularly takes part in the PTS. Table 1 summarizes the results of the logistics component of the exercise.

Table 1: Summary table for delivery logistics and capacity to conduct laboratory tests. d=day.

	Delivery on time	Antibody ELISA	Antigen ELISA	PCR
EU Country 1	YES	YES	YES	YES
EU Country 2	YES	YES	YES	YES
EU Country 3	YES	YES	YES	YES
EU Country 4	YES	YES	YES	YES
Non EU Country 1	7d delay	YES	YES	NO
Non EU Country 2	10d delay	YES	YES	YES
Non EU Country 3	7d delay	YES	YES	YES
Non EU Country 4	Not possible	YES	YES	NO
Non EU Country 5	7d delay	YES	YES	NO
Non EU Country 6	YES	YES	YES	YES
Non EU Country 7	Delivery not possible due to import issues			

Results: Capacity to rapidly generate accurate results

The simulation tested rapid and accurate generation of antigen ELISA, antibody ELISA and real-time RT-PCR results. Six countries promptly tested and reported results within three days after the delivery of the materials for the simulation. Non-EU Country 3 had a two-week delay with generating and reporting results, due to the LSD emergency in their country. For similar reasons, whilst EU Country 3 tested samples promptly, it did not report results for three weeks. Non-EU Country 5 had a 20-day delay in result generation and reporting, as the person responsible for the exercise was away on a training course. After the three-month delay in delivery of materials, Non-EU Country 4 reported results ten days after delivery. Table 2 summarizes results for speed for testing, reporting and interpretation.

Table 2: A summary table for speed of testing, reporting and interpretation of the results. d=day, w=week.

	Tested on time	Results reported on time	Interpretation reported on time
EU Country 1	YES	YES	YES
EU Country 2	YES	YES	YES
EU Country 3	YES	3w delay	3w delay
EU Country 4	YES	YES	YES
Non EU Country 1	YES	YES	YES
Non EU Country 2	YES	YES	YES
Non EU Country 3	3w delay	YES	YES
Non EU Country 4	10d delay	YES	YES
Non EU Country 5	10d delay	YES	Delayed*
Non EU Country 6	YES	YES	YES
Non EU Country 7	Delivery not possible due to import issues		

All countries produced results with the antigen and antibody ELISAs. Seven of the ten countries generated real-time RT-PCR results. Non-EU Country 1 did not produce PCR results but is planning to get a conventional (gel based) PCR system up and running with support from IZSLER. Non-EU Country 4 has real-time PCR facilities but does not yet use them. Non-EU Country 5 also has facilities for real-time PCR, but has no RNA extraction kits, precluding them from being able to test samples for FMD virus genome. Table 1 summarizes the capacity for ELISAs and PCR during the Lab SimEx.

Of the ten countries that conducted antigen ELISA testing, nine generated results completely consistent with the IZSLER laboratory. EU Country 4 used polyclonal reagents for antigen detection rather than the IZSLER ready-to-use kits, but despite cross-reaction, generated more-or-less similar results to the IZSLER kits (but faced problems interpreting results in the context of the polyclonal cross-reactivity and background optical density). EU country 1 appeared to miss loading antigen ELISA wells for serotypes Asia1, C and for Pan FMD antigen detection, but was correct with the results for serotype A and O. Figure 2 shows the antigen ELISA results in the nine countries that used the IZSLER antigen ELISA as well as IZSLER results. Table 4 in the appendix also shows these results.

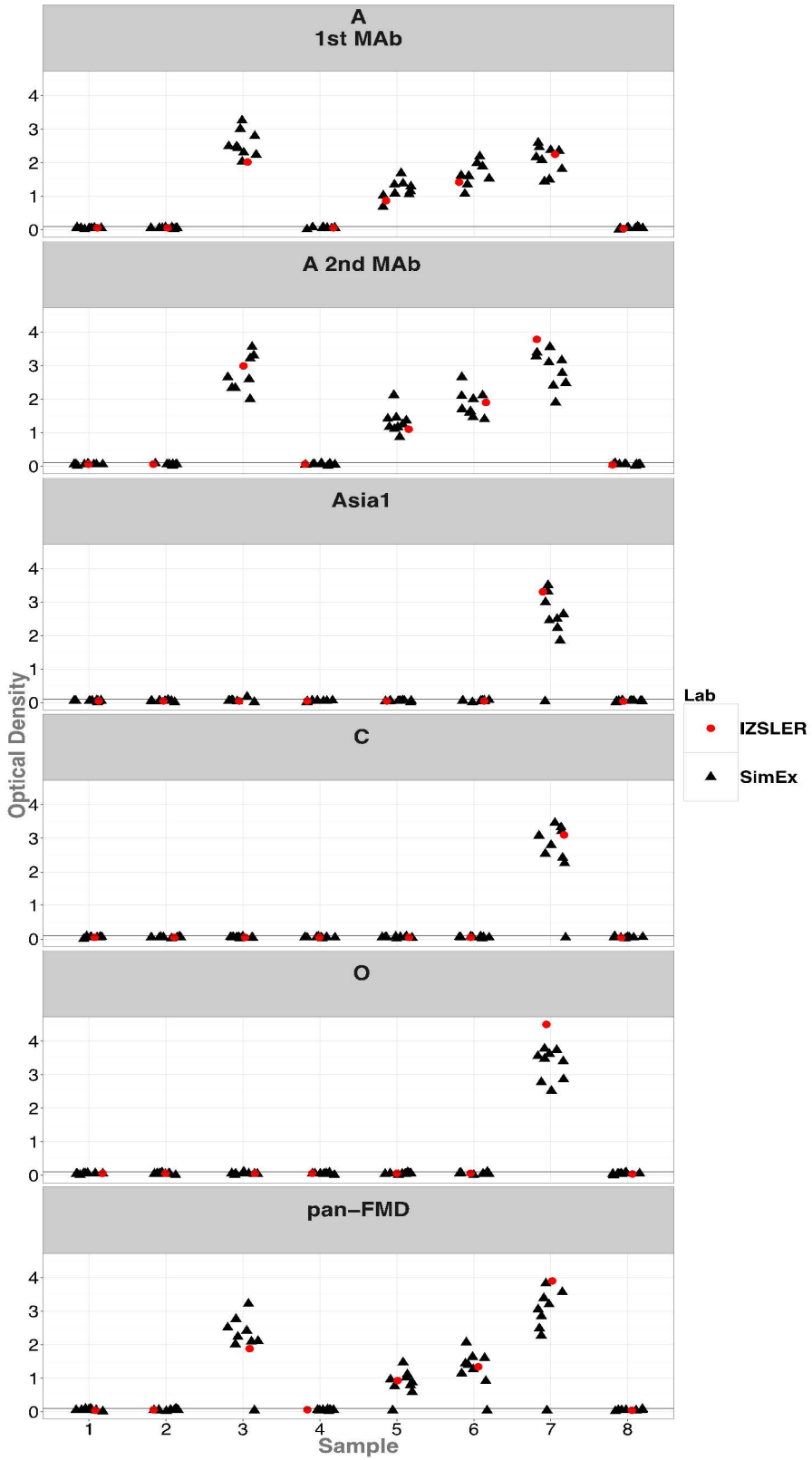


Figure 2: A summary of optical density values from nine Balkan countries that used the IZSLER antigen ELISA to detect and serotype FMDV serotypes A, Asia 1, C, O and Pan A-O-C-Asia1 (Black triangles). The red circles represent the antigen ELISA results from IZSLER. The points below the lower horizontal line (0.1 optical density) reflect negative results. There was good agreement between the laboratories in terms of detecting FMDV antigen and reaction intensity. Samples 7 and 8 were positive and negative controls respectively. The plots for the positive control show single outlying background low OD values for Asia1, C and Pan FMD corresponding with the missed well loading by EU Country 1.

Of the ten countries that conducted antibody ELISAs, all produced accurate results. Two countries omitted to use the tool supplied for calculation of end-point titres. This was probably due to severe time and staff constraints in EU Country 1 during the LSD outbreak, and due to a language barrier in Non-EU Country 5 (where Russian would be a more appropriate language for collaboration with the very engaged and technically competent laboratory staff). Figure 3 summarizes the percentage inhibition results from the Prio-check NSP ELISAs. Figure 4 shows log titre results from the nine laboratories that used the IZSLER structural protein ELISAs and from three repeated tests with the same samples within IZSLER. Tables 5 and 6 in the appendix also show these data.

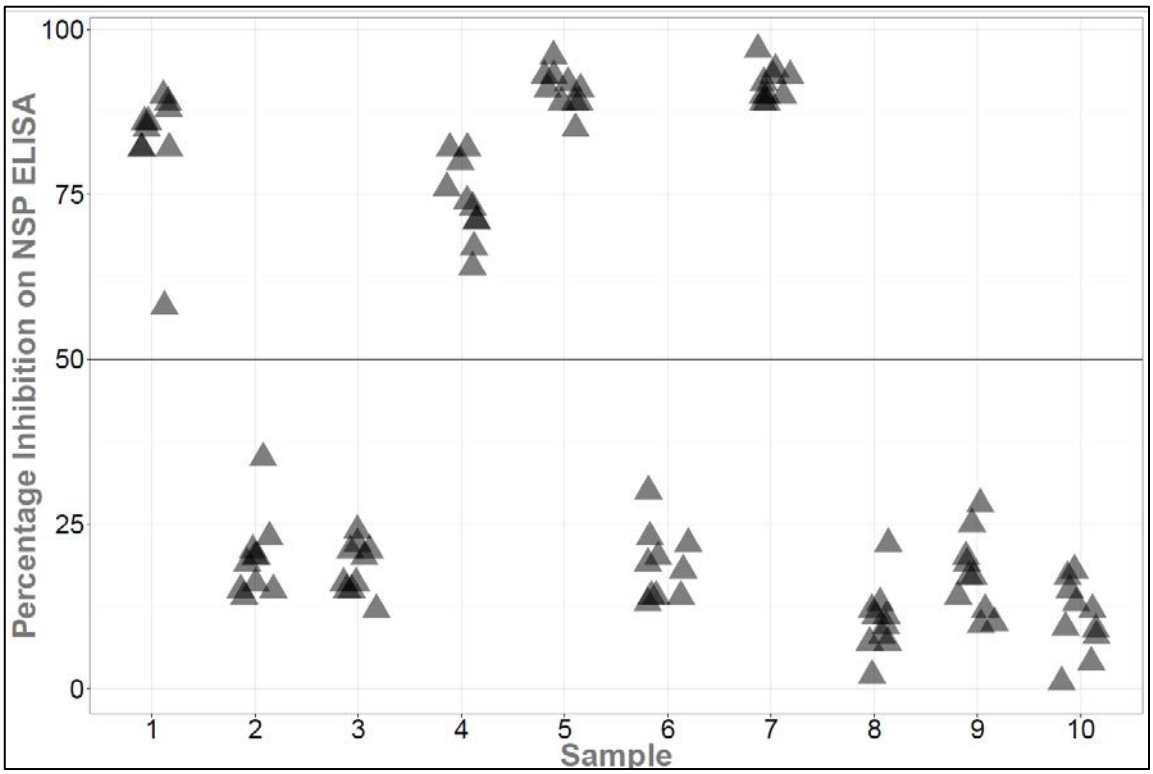


Figure 3: A comparison of Prio-check NSP ELISA percentage inhibition results from the ten laboratories that participated in the simulation exercise. The horizontal line represents the cut-off for positive and negative results advised by the manufacturer. Percentage inhibition values above 50% are considered positive, and those below 50% are considered negative. This figure shows good agreement between the laboratories in the detection of NSP antibodies.

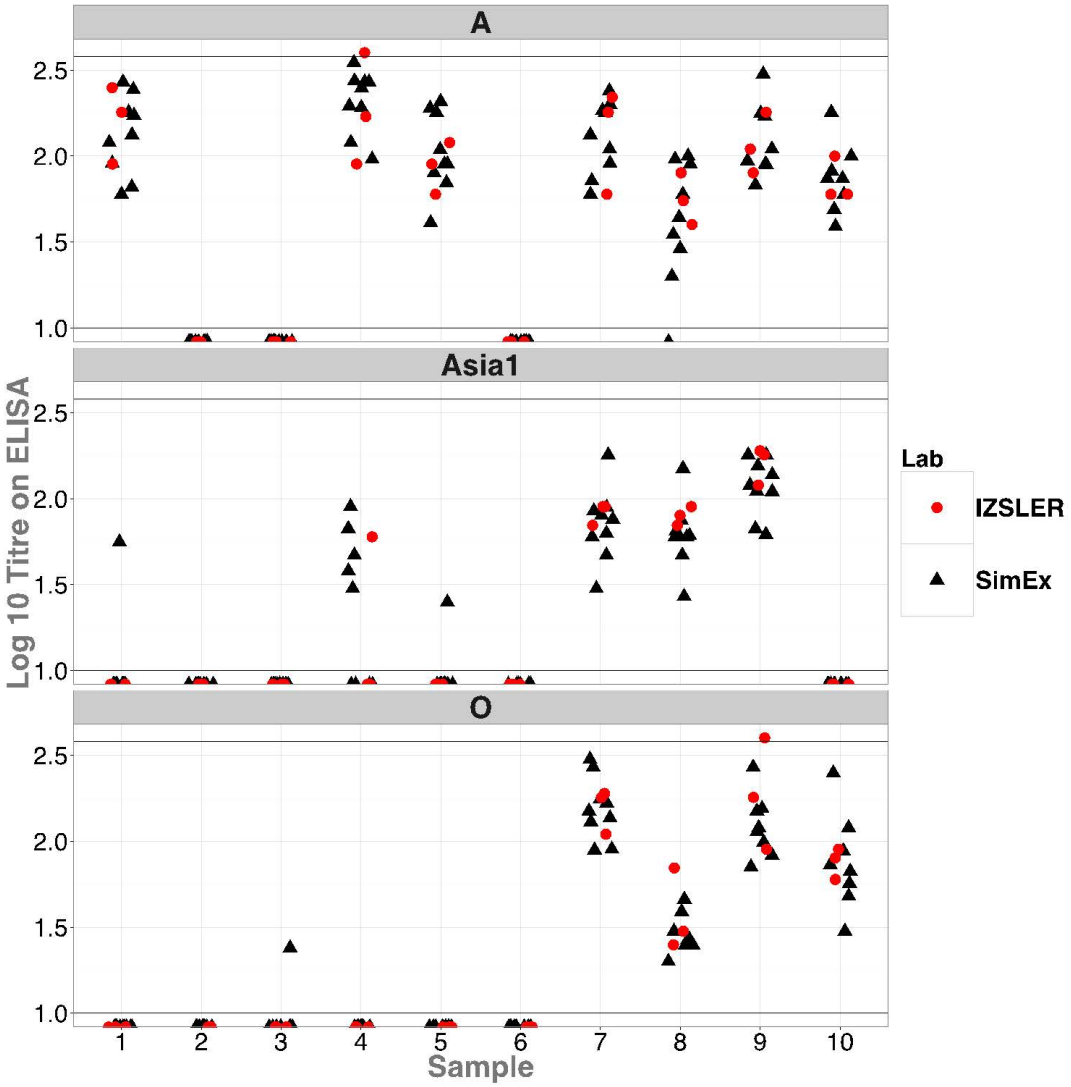


Figure 4: A summary of log 10 titers from nine Balkan countries that used the IZSLER structural protein ELISAs to detect antibodies against FMDV serotypes A, O and Asia 1 (Black triangles). The red circles are the results from three repeats of testing the panel on three different days at IZSLER. The points below the lower horizontal line reflect negative results. Points above the upper line reflect very strong positive results where the titre could not be estimated from the serum dilutions used in the assay. The majority of results are within half a log-titre unit of each other. Other than two outliers (a weak positive for type O where all other labs were negative, and a negative for type A where other labs had a weak positive), the plot suggests that there was good agreement between results.

Of the seven countries that reported real-time RT-PCR results, five reported accurate results. Non-EU Country 2 missed detection of one of the positive samples. This was possibly due to degeneration of samples caused by inappropriate storage during a delay at customs, though the Non-EU Country 2 t re rt t e Ct re u t - actin internal control. EU Country 4 generated real-time RT-PCR results that were not consistent with the expected outcome (the three negative samples reacted as weak positive in repeated 3D based assay) and is currently engaged in real-time PCR trouble-shooting. During troubleshooting, it generated correct results using a different real-time RT-PCR with 5'UTR (Reid et al. 2002) primers. The 5' UTR real-time RT-PCR tends to produce higher CT values (weaker positives). Figure 5 summarizes the Ct values generated by the 3D based assay in the seven countries that generated real-time RT-PCR results as well as IZSLER results. Table 7 in the appendix also shows these data.

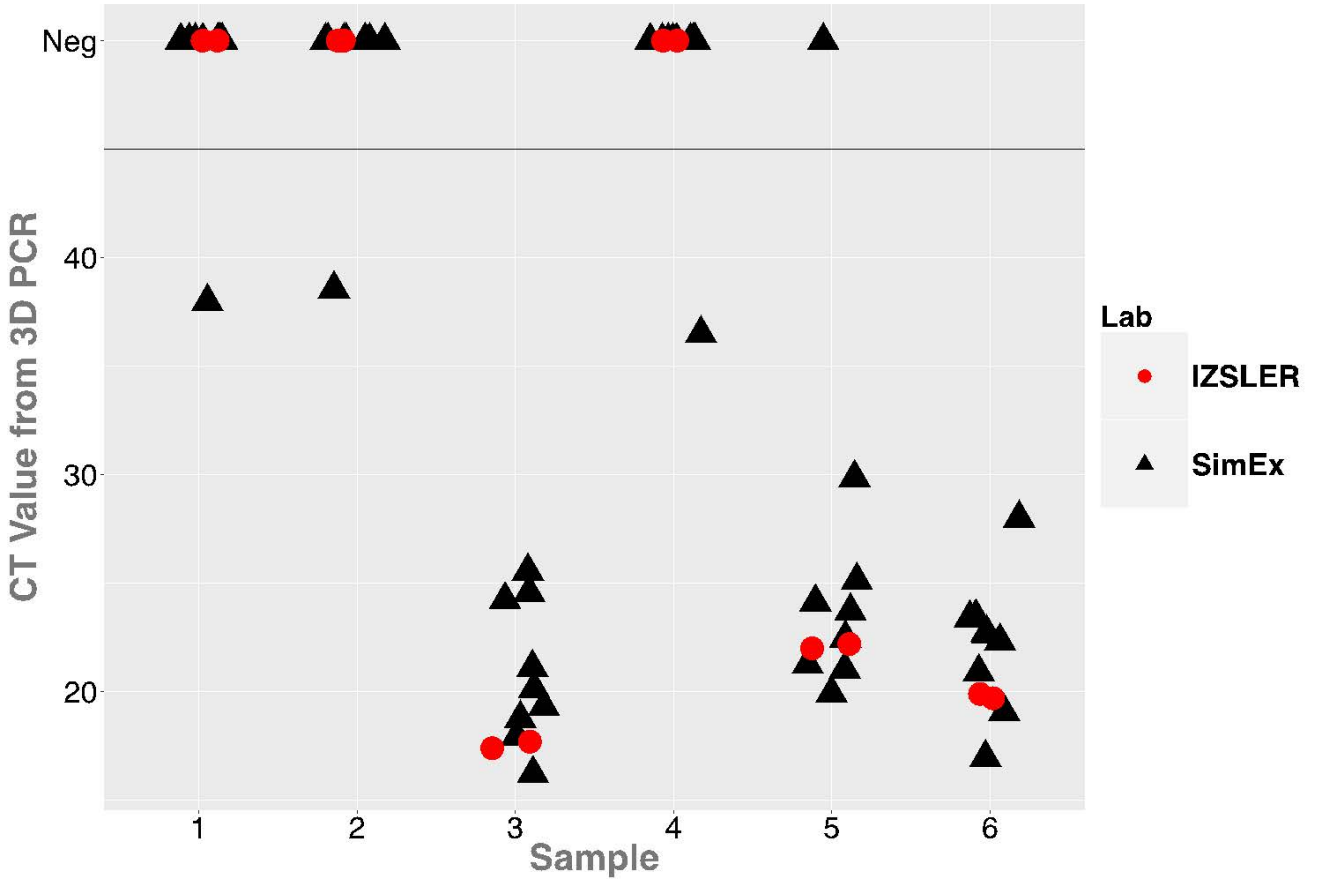


Figure 5: A summary of real-time RT-PCR cycle-threshold (Ct) values from the seven laboratories that performed this test in the simulation exercise (black triangles). The red circles represent Ct results from the IZSLER laboratory. Results using 3D (Callahan et al. 2002) PCR primers are shown in the plot. Points above the horizontal line represent PCR negative samples. Lower Ct values are associated with more rapid genome amplification and therefore higher levels of viral genome in the sample. One laboratory had weak positive results in the three negative samples (1, 3 and 4), which were correctly found negative by other laboratories. Another laboratory, possibly due to sample degradation during a custom delay, had a negative result with sample 5 whereas the other laboratories had positive results.

Results: Interpretation of results

Whilst the majority of countries generated results that were consistent with those of IZSLER, a gap was highlighted in the capacity to interpret results in the context of the epidemiological scenario as well as cross-reactions in antibody ELISAs. Of the ten countries, three interpreted the results available to them consistently with the epidemiological scenario. Countries with excellent interpretation included Non-EU Country 3 and Non-EU Country 4. Non-EU Country 5, once the language barrier was broken, also provided very good interpretation of the results they had generated. A further four countries, Non-EU Country 1, Non-EU Country 2, EU Country 2 and Non-EU Country 6 made accurate interpretations on the main aspects of the simulation, but did not consider vaccination as an explanation for sera that were positive for antibodies against structural proteins of multiple serotypes, but negative for NSP. Instead, this was interpreted as cross-reaction in the assay.

Three EU countries, possibly due to severe time-constraints, and possibly due to habituation to the regular PTS where consideration of an epidemiological scenario is not yet required, had difficulties with interpretation of results. In EU Country 1 (bearing in mind their very strong laboratory performance in the previous exercises and the LSD emergency in their country), NSP positive and negative results, and their interpretation in addition to multiple positives in the serotype specific ELISA appeared to have been mixed up. EU Country 4 performed the simulation exercise in conjunction with other proficiency testing, and possibly had time restrictions. Their in-house antigen ELISA suffered from some cross-reactivity between serotypes. Despite this, the three positive epithelial samples showed much stronger optical density values for type A and were correctly identified. However, low optical density values were interpreted alternatively as positive or negative in different samples, and interpretation was possibly

further confounded by incorrect real-time RT-PCR results. EU Country 3 was also under severe time pressure during the simulation, and was delayed in providing an interpretation. In sera that were positive for NSP (reflecting infection) and positive for multiple serotypes, an interpretation of infection with multiple serotypes was given, without consideration of assay cross-reaction or vaccination. Table 3 summaries SimEx outputs in terms of accurate generation and interpretation of results.

Table 3: A summary of the performances during the simulation exercise in the generation of accurate results and interpretations. Real-Time RT-PCR issues for Non EU country 2 may have been associated with sample degeneration during a delay at customs. EU country 1 appeared to have mixed up two samples for interpretation of infection status from the non-structural protein antibody ELISA result. "Mult inf" means that positivity for structural protein antibodies of multiple serotypes in conjunction with positive results for non-structural protein antibodies was interpreted as concurrent infection with multiple serotypes (unlikely for a single incursion into a country that is normally free from FMD). "vacc no," means that all interpretations were correct, except that cross-reaction alone, and not vaccination with multiple serotypes were considered as a potential reason for multiple positive structural protein antibody results.

	Accurate results	**Accurate interpretation**
EU Country 1	YES	? Mix up inf*
EU Country 2	YES	YES (vacc no)
EU Country 3	YES	Mult inf
EU Country 4	Real-Time RT-PCR issues	Inconsistent*
Non EU Country 1	YES	YES (vacc no)
Non EU Country 2	Real-Time RT-PCR issues*	Mult inf
Non EU Country 3	YES	YES
Non EU Country 4	YES	YES
Non EU Country 5	YES	YES
Non EU Country 6	YES	YES (vacc no)
Non EU Country 7	Delivery not possible	

Overall conclusions from laboratory simulation exercise

All laboratories demonstrated capacity to generate results relevant to the diagnosis of FMD with ready-to-use antibody and antigen ELISAs. Nine laboratories had real-time PCR facilities, seven produced results, and five produced accurate real-time RT-PCR results. However, the simulation exercise design, based on a "real-life" scenario highlighted a weakness in the ability to interpret results (in particular serological results) in relation to an epidemiological scenario. This competence is not yet tested in the regular proficiency-testing scheme.

Based on discussion during the follow up calls, there is reasonably good cross-border communication and collaboration between the laboratories in neighboring Balkan countries, and this is something that they value highly. The majority of feedback requested cross-border meet-ups, discussion groups or training to improve networking in the region. A good example of the highly beneficial informal cross-border collaboration was the offer from Non-EU Country 3 to accept materials on behalf of Non-EU Country 4, who was struggling with delivery company issues. The Balkan laboratories wish to promote linkages of this type.

One further consideration is the provision of Russian language based support to Non-EU Country 5. A Russian language feedback call for this country was greatly beneficial in strengthening linkages with laboratory staff in that country, and highlighted their engagement and technical strengths, as well as key gaps in reagent availability that would have been missed in absence of this Russian language discussion.

From the results of the simulation exercise, three key gaps to address in the future are:

1. Facilitation of delivery of diagnostic materials to non-EU countries.
2. PCR capacity building in a few countries and training in real-time RT-PCR trouble-shooting.
3. **Training in the interpretation of diagnostic test results and relating laboratory results to the epidemiological situation.**

Planned follow-up activities based on laboratory simulation exercise outcomes

Given country requests for laboratory networking activities, and the need for refinement of diagnostic interpretation capacity, plans are being drafted for a desktop group exercise focused on interpreting diagnostic results in the context of an epidemiological scenario. Prior to a physical meet-up, a preparatory webinar covering diagnostic interpretation could be considered. Participants from multiple Balkan laboratories would attend. As well as attending this potential workshop, an alternative for Moldova would be to link it with a Russian language speaking laboratory network. During consultation of Balkan countries during an online Management meeting on the 12th of September, and discussions with experts at IZSLER, the provisional plan shown in Figure 6 was deemed to be an acceptable follow-up activity to address the gap in capacity to interpret diagnostic tests.

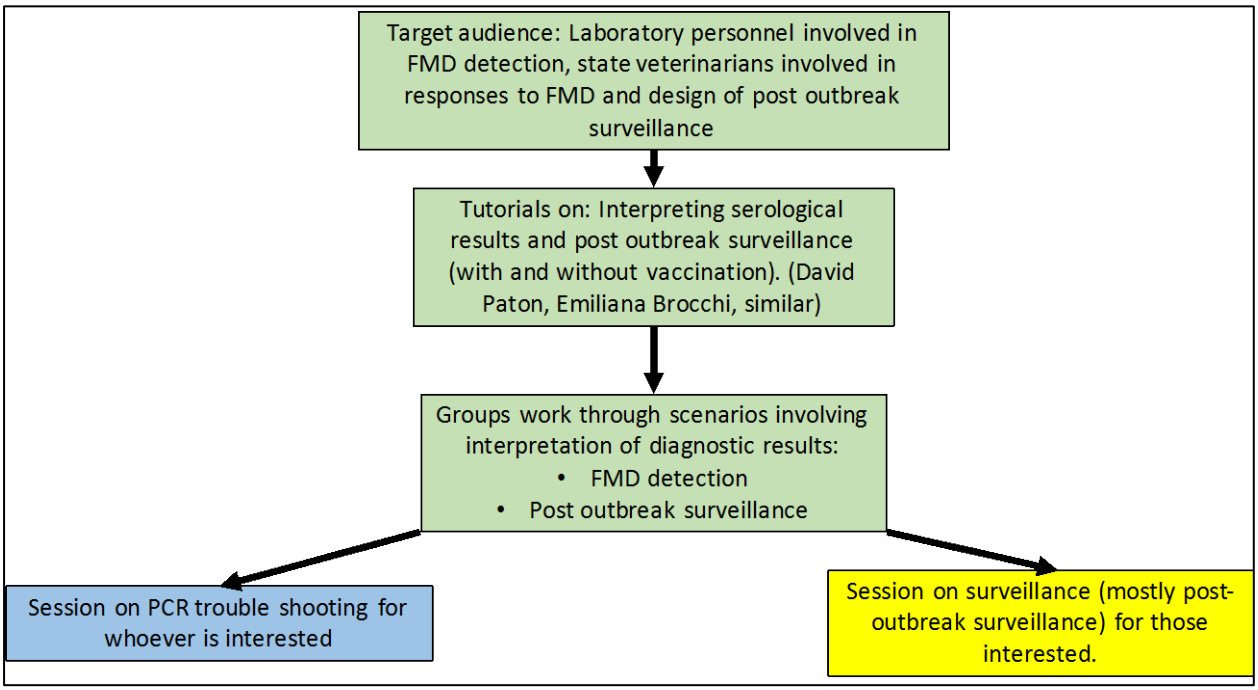


Figure 6: A potential follow up activity plan to address the gap in diagnostic test interpretation.

For the countries with capacity gaps in FMDV genome detection by PCR, country specific assistance is recommended. For example, IZSLER may assist Non-EU Country 1 to develop its conventional PCR capacity. Non-EU Country 5 has a need for RNA extraction kits and Russian language support. Non-EU Country 4 has requested very extensive general laboratory training for five staff members. Whilst such large funding for a single country is not feasible, EuFMD has offered the interpretation training and link-ups with PCR experts as assistance to Non-EU Country 4 in utilizing its real-time PCR equipment. Similarly, for EU Country 4, as well as some trouble-shooting during the initial follow-up call, further individual (remote) support from real-time PCR trouble shooting experts is available. Online training in real-time PCR interpretation and trouble-shooting could also be considered. A follow-up call and discussion about helpful activities is still pending for Non-EU Country 2.

Appendix

Laboratory data generated during the simulation exercise. These data are also shown on Figures 1-4 above).

Table 4 a-d: IZSLER antigen ELISA optical density results in each country. EU country 4 did not use the IZSLER antigen ELISA and is therefore no included.

(a) IZSLER antigen ELISA results for EU countries 1-3. (NT = Not Tested)

SAMPLES	EU Country 1						EU Country 2						EU Country 3					
	A MAb1	A Mab2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD
Epithelium homogenate from healthy cattle A (neg)	0,05	0,06	NT*	NT	0,06	NT	0,07	0,07	0,06	0,08	0,06	0,09	0,01	0,01	0,01	0	0,01	0,01
Homogenate A + FMDV type A (strain A22 Iraq) 1/10000	0,07	0,05	NT	NT	0,06	NT	0,07	0,08	0,08	0,08	0,09	0,08	0,01	0,02	0,01	0,02	0,01	0,02
Homogenate A + FMDV type A (strain A22 Iraq) 1/5.5	2,03	2	NT	NT	0,06	NT	3,26	3,56	0,07	0,07	0,11	3,22	2,3	2,33	0,02	0,02	0,02	2,01
Epithelium homogenate from healthy cattle B (neg)	0,06	0,06	NT	NT	0,05	NT	0,07	0,08	0,06	0,07	0,08	0,07	0,01	0,02	0,01	0,01	0,01	0,02
Homogenate A + FMDV type A (strain A22 Iraq 1/20)	1,08	1,17	NT	NT	0,06	NT	1,69	2,12	0,06	0,07	0,1	1,47	1,15	1,16	0,01	0,01	0,01	0,79
Homogenate A + FMDV type A (strain A22 Iraq 1/14.5	1,07	1,4	NT	NT	0,07	NT	2,19	2,65	0,08	0,08	0,1	2,07	1,53	1,59	0,01	0,01	0,01	1,14
POS control	1,5	1,9	NT	NT	3,4	NT	2,6	3,55	3,31	3,46	3,74	3,56	1,44	2,4	1,85	2,42	2,77	2,27
NEG control	0,06	0,06	NT	NT	0,06	NT	0,1	0,09	0,07	0,08	0,08	0,08	0,01	0,02	0,01	0,01	0	0,02

(b) IZSLER antigen ELISA results for non EU countries 1-3

SAMPLES	Non EU Country 1						Non EU Country 2						Non EU Country 3					
	A MAb1	A Mab2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD
Epithelium homogenate from healthy cattle A (neg)	0,04	0,05	0,05	0,05	0,07	0,07	0,06	0,06	0,04	0,06	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
Homogenate A + FMDV type A (strain A22 Iraq) 1/10000	0,05	0,05	0,05	0,04	0,04	0,06	0,05	0,06	0,04	0,05	0,05	0,04	0,05	0,05	0,05	0,05	0,05	0,05
Homogenate A + FMDV type A (strain A22 Iraq) 1/5.5	3,01	3,3	0,05	0,04	0,04	2,76	2,49	3,21	0,17	0,05	0,05	2,09	2,24	2,33	0,06	0,06	0,05	2,23
Epithelium homogenate from healthy cattle B (neg)	0,04	0,04	0,05	0,04	0,04	0,05	0,05	0,05	0,04	0,05	0,05	0,05	0,05	0,06	0,05	0,05	0,05	0,06
Homogenate A + FMDV type A (strain A22 Iraq 1/20)	1,35	1,41	0,05	0,05	0,04	0,96	1,02	1,36	0,04	0,08	0,05	0,76	1,29	1,25	0,05	0,05	0,05	1,01
Homogenate A + FMDV type A (strain A22 Iraq 1/14.5	1,99	2,09	0,05	0,04	0,04	1,63	1,62	2,11	0,04	0,05	0,05	1,26	1,6	1,7	0,05	0,05	0,05	1,4
POS control	2,37	3,39	3,5	2,54	3,78	3,83	2,46	3,27	2,99	3,33	3,48	3,38	1,81	2,48	2,45	2,26	2,52	2,48
NEG control	0,04	0,05	0,04	0,04	0,04	0,05	0,05	0,06	0,04	0,06	0,06	0,04	0,05	0,05	0,05	0,05	0,05	0,05

SAMPLES	Non EU Country 4						Non EU Country 5						Non EU Country 6					
	A MAb1	A Mab2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD	A MAb1	A MAb2	Asia1	C	O	Pan FMD
Epithelium homogenate from healthy cattle A (neg)	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,06	0,06	0,05	0,06	0,09	0,06	0,06	0,05	0,05	0,06	0,05
Homogenate A + FMDV type A (strain A22 Iraq) 1/10000	0,05	0,05	0,05	0,05	0,05	0,06	0,05	0,05	0,05	0,05	0,06	0,09	0,05	0,06	0,05	0,05	0,05	0,05
Homogenate A + FMDV type A (strain A22 Iraq) 1/5.5	2,8	2,65	0,05	0,05	0,05	2,42	2,44	2,65	0,05	0,05	0,05	2,11	2,48	2,59	0,05	0,05	0,04	2,51
Epithelium homogenate from healthy cattle B (neg)	0,07	0,05	0,05	0,05	0,05	0,05	0,06	0,08	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,04
Homogenate A + FMDV type A (strain A22 Iraq 1/20)	1,06	1,11	0,05	0,06	0,05	0,88	0,69	0,87	0,05	0,05	0,06	0,59	1,38	1,45	0,05	0,05	0,05	1,11
Homogenate A + FMDV type A (strain A22 Iraq 1/14.5	1,6	1,64	0,05	0,05	0,05	1,43	1,35	1,46	0,06	0,07	0,06	0,92	1,89	2	0,05	0,06	0,05	1,6
POS control	2,17	3,15	2,64	3,21	3,55	3,2	2,08	3,09	2,23	3,08	3,62	3,05	2,36	2,77	2,49	2,8	2,86	2,85
NEG control	0,05	0,05	0,05	0,05	0,04	0,05	0,05	0,06	0,05	0,06	0,05	0,06	0,05	0,05	0,05	0,05	0,04	0,05

(c) IZSLER antigen ELISA results for non EU countries 4-6.

SAMPLES	IZSLER					
	A MAb1	A Mab2	Asia1	C	O	Pan FMD
Epithelium homogenate from healthy cattle A (neg)	0,06	0,06	0,05	0,05	0,06	0,04
Homogenate A + FMDV type A (strain A22 Iraq) 1/10000	0,06	0,06	0,05	0,05	0,06	0,06
Homogenate A + FMDV type A (strain A22 Iraq) 1/5.5	2,02	2,99	0,05	0,05	0,06	1,88
Epithelium homogenate from healthy cattle B (neg)	0,06	0,06	0,05	0,05	0,06	0,06
Homogenate A + FMDV type A (strain A22 Iraq 1/20)	0,87	1,1	0,05	0,05	0,06	0,93
Homogenate A + FMDV type A (strain A22 Iraq 1/14.5	1,42	1,9	0,05	0,05	0,06	1,34
POS control	2,25	3,78	3,3	3,1	4,5	3,9
NEG control	0,04	0,04	0,04	0,04	0,04	0,04

(d) Results from IZSLER for the antigen ELISA

Prio-Check NSP ELISA Percentage inhibition results in each country										
IZSLER	EU country 1	EU country 2	EU country 3	EU country 4	Non EU Country 1	Non EU Country 2	Non EU Country 3	Non EU Country 4	Non EU Country 5	Non EU Country 6
Positive	85	86	86	88	82	90	89	82	58	82
Negative	14	19	35	21	16	23	15	15	20	20
Negative	16	16	21	20	15	24	12	15	22	21
Positive	74	73	82	82	71	80	76	67	71	64
Positive	91	89	96	93	89	93	92	85	89	91
Negative	19	14	22	30	18	13	14	20	14	23
Positive	92	90	97	93	89	94	93	89	90	90
Negative	13	12	22	11	2	11	7	8	7	9,57
Negative	19	17	28	17	14	20	12	9,7	10	25
Negative	1	9	15	17	8	12	4	9,3	13	18

Table 5: Individual Priocheck NSP ELISA, expressed as percentage inhibition results for each country.

Table 6a: Individual structural protein antibody ELISA results for each country, expressed as end point titres (<10 = neg), obtained with IZSLER kits. EU country 4 did not use the IZSLER structural protein antibody ELISAs.

IZSLER	*EU Country 1*			*EU Country 2*			*EU Country 3*			*Non-EU Country 1*			*Non-EU Country 2*			*Non-EU Country 3*			*Non-EU Country 4*			*Non-EU Country 5*			*Non-EU Country 6*		
	O	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**
NSP+, A+	<10	**60**	<10	<10	**244**	**56**	<10	**270**	<10	<10	**173**	<10	<10	**180**	<10	<10	**133**	<10	<10	**66**	<10	<10	**120**	<10	<10	**91**	<10
All -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
All -	<10	<10	<10	<10	<10	<10	<10	<10	<10	**24**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
NSP+, A+, cros-reac Asia1	<10	**120**	<10	<10	**249**	**67**	<10	**270**	**30**	<10	**274**	**38**	<10	**270**	**90**	<10	**192**	<10	<10	**96**	**47**	<10	**350**	<10	<10	**196**	<10
NSP+ A+	<10	**90**	<10	<10	**208**	<10	<10	**80**	**25**	<10	**109**	<10	<10	**90**	<10	<10	**190**	<10	<10	**41**	<10	<10	**180**	<10	<10	**70**	<10
All-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**<10**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
NSP+, A+, O+, Asia1+	**90**	**60**	**30**	**137**	**184**	**89**	**270**	**110**	**180**	**167**	**240**	**76**	**150**	**180**	**85**	**89**	**91**	**60**	**177**	**72**	**63**	**300**	**200**	**80**	**130**	**133**	**47**
NSP-, A+, O+, Asia1+	**25**	**20**	**60**	**25**	**44**	**75**	**30**	**90**	**150**	**39**	**96**	**65**	**25**	**60**	**60**	**27**	**29**	**47**	**46**	**<10**	**61**	**20**	**100**	**60**	**27**	**35**	**27**
NSP-, A+, O+, Asia1+	**120**	**90**	**120**	**114**	**178**	**138**	**150**	**300**	**180**	**155**	**171**	**155**	**pos**	**pos**	**180**	**99**	**89**	**67**	**71**	**68**	**111**	**270**	**110**	**110**	**83**	**94**	**62**
NSP-, A+, O+	**30**	**60**	<10	**57**	**74**	<10	**120**	**180**	<10	**67**	**82**	<10	**pos**	**pos**	<10	**48**	**49**	**<10**	**88**	**39**	<10	**250**	**100**	<10	**73**	**74**	<10
titre Pos Contr	120	180	180	80	120	120	90	270	180	54	142	88	80	90	110	nr	nr	nr	50	110	80	250	220	80	270	180	110
OD value Neg Contr	nr	nr	nr	1,938	1,348	1,142	2,186	1,249	2,270	2,093	0,994	1,873	2,024	0,989	1,298	na	na	na	na	na	na	2,189	1,093	1,502	nr	nr	nr

Table 6b. IZSLER structural protein antibody ELISA end point titres in IZSLER, from tests repeated on three different days.

IZSLER	IZSLER 1			IZSLER 2			IZLSER 3		
	O	**A**	**As1**	**O**	**A**	**As1**	**O**	**A**	**As1**
NSP+, A+	< 10	180	< 10	< 10	90	< 10	< 10	250	< 10
All -	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
All -	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
NSP+, A+, CR Asia1	< 10	170	< 10	< 10	90	60	< 10	400	< 10
NSP+ A+	< 10	90	< 10	< 10	60	< 10	< 10	120	< 10
All-	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
NSP+, A+, O+, Asia1+	110	180	90	190	60	70	180	220	90
NSP-, A+, O+, Asia1+	25	55	90	70	40	70	30	80	80
NSP-, A+, O+, Asia1+	90	110	190	450	80	180	180	180	120
NSP-, A+, O+	60	60	< 10	80	60	< 10	90	100	< 10

Table 7: Real-time RT-**PCR results (cycle threshold values) from the seven countries that performed real-time RT-PCR using 3D primers and from IZSLER. EU Countries 3 and 4 also conducted** real-time RT-**PCR testing with 5' UTR primers (results not shown). In EU country 3, 5'UTR positive/negative results were consistent (but with a higher Ct value as expected for this assay) with the 3D results. For EU Country 4, the incorrect weak positives on the 3D** real-time RT-**PCR were identified correctly as negatives by the 5'UTR** real-time RT-**PCR.**

SAMPLES	IZSLER	EU Country 1	EU Country 2	EU Country 3	EU Country 4	Non EU Country 2	Non EU Country 3	Non EU Country 6
Epithelium homogenate from healthy cattle A (neg)	No Ct	No Ct	No Ct	No Ct	37.97	No Ct	No Ct	No Ct
Homogenate A + FMDV type A (strain A22 Iraq) 1/10000	No Ct	No Ct	No Ct	No Ct	38.56	No Ct	No Ct	No Ct
Homogenate A + FMDV type A (strain A22 Iraq) 1/5.5	17,4	16.23	24,57	21,12	17.93	18,77	25,56	20,14
Epithelium homogenate from healthy cattle B (neg)	No Ct	No Ct	No Ct	No Ct	36.50	No Ct	No Ct	No Ct
Homogenate A + FMDV type A (strain A22 Iraq 1/20)	22	21.04	23,72	25,13	21.26	No Ct	29,86	19,93
Homogenate A + FMDV type A (strain A22 Iraq 1/14.5	19,9	16.97	22,73	20,91	22.65	28	23,4	23,45

::REPORT::

Regional cooperation between Transcaucasia and neighbouring countries in the prevention and control of foot-and-mouth disease (FMD) and other major epizootic transboundary diseases

Maison de la Chimie, Paris, France - 25th May, 2016

The meeting was chaired by Dr Jean-Luc Angot, President of the European Commission for the Control of Foot-and-Mouth Disease (EuFMD). In his opening remarks he provided the background of the meeting, thanked the OIE for making the meeting facilities available and welcomed the participants from Armenia, Azerbaijan, Georgia, I.R of Iran, Russian Federation and Turkey, and the representatives of the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) and the European Commission (EC).

Recalling the decisions of the 91st Session of the EuFMD Executive Committee, taken with GF-TADs (Global Framework for the progressive control of Transboundary Animal Diseases) partners, on the need for a meeting to be held in May this year at the margins of the OIE General Session on cooperation on the control of FMD in Transcaucasia, EuFMD invited representatives of the six neighbouring countries in that area to the meeting. The objective of the meeting was to agree on a common vision for the intensified collaboration in the prevention and control of FMD and other epizootic transboundary diseases between the represented countries. The EuFMD, through its regular Sessions and its workplans with its members in this region – Georgia and Turkey – facilitated the communication and cooperation between the countries of that region, and thus responded to the requests of its members to improve the exchange of epidemiological information and the sharing of data between countries in this region.Drawing the attention to the recent incursions of a new serotype A FMD-virus into the region, which presents a high risk of epizootic development due to lack of effective vaccines, the EuFMD circulated, in preparation of the meeting, a “Statement of Intentions” (Attached as Annex 1, as amended during the meeting) in order to identify the areas of possible enhanced cooperation and facilitated the discussion.

Recognizing that other diseases, such as *Peste des Petits Ruminants* (PPR) have also spread into previously unaffected parts of the region, and which are not included in the mandate of EuFMD, but come under the responsibility of GF-TADs, the EuFMD presented the proposal to the meeting and to the GF-TADs partners in the understanding that the “Statement of Intentions” might be extended, by consensus, to include other diseases.

Cognizant of the difficulties to reach a written agreement, the “Statement of Intentions” is proposed as an instrument towards a common vision possibly expressed by the participants that could provide the base for improved communication and co-ordination of activities.

Dr Angot further reminded participants that three of the participating countries have been participating on a monthly basis in sharing information on vaccination programmes, and fulfill almost all of the minimum requirements for cooperation listed in the "Statement of Intentions", and therefore this meeting opens the possibility to neighbouring countries.

The “Statement of Intentions” was then presented and discussion followed.

GEORGIA The delegate stated that despite some problems in communication and collaboration between countries in the past, the situation has improved. Georgia recently became EuFMD member and good results have been obtained from this membership. The immediate notification of outbreaks is the most important part of the agreement and Georgia hopes that it can be finalized. Georgia acknowledged the support received by OIE and FAO for PPR control. It also specified that the official name of the country mentioned in the document should be Georgia and not Republic of Georgia. The statement of intentions proposed was accepted.

In addition the delegate of Georgia proposed to invite as observers I.R. of Iran, Turkey and Russian Federation to the multi country simulation exercise that will be held between Georgia, Armenia and Azerbaijan in July this year.

AZERBAIJAN The delegate stated that the success of past EuFMD programme is very encouraging and this proposal can be accepted with some amendments in particular related to the necessity to provide information on monthly basis (it was suggested to include "within first 10 days of the month").

TURKEY The delegate stated that some difficulties are still present in some specific points of the document (e.g. regular reporting) but that they agreed with purpose of the collaboration as stated in the "Statement of Intentions". More comments will be provided in writing.

I. R. of IRAN The delegate highlighted the importance of working in collaboration with other countries to control transboundary animal diseases (TADs) and stated that EuFMD provided good support in the past. The "Statement of Intentions" proposed was well accepted and suggested further works on the document in the working groups.

ARMENIA The delegate indicated that some technical amendments are needed but in principle the proposal is accepted.

RUSSIAN FEDERATION The delegate thanked the EuFMD for having organized the meeting which they considered is very important taking into account the risk arising from the new FMD strain A-GVII. The proposal can improve regional cooperation, improve transparency and the Russian Federation is ready to provide information on TADs because, if the epidemiological situation of the area is clear, appropriate measures can be taken to prevent introduction thereof.

Position of the international organizations:

FAO The Chief Veterinary Officer of FAO, Dr Juan Lubroth, indicated that the initiative is important and very welcomed, and that it is significant that the initiative was supported through the GF-TADs mechanisms. Some elements of possible cooperation already exist in the framework of GF-TADs Europe and assistance has been already provided by FAO to Armenia and Georgia so the proposed programme can build on the existing activities. According to Dr. Lubroth, it is important to understand how the proposal could possibly include diseases other than FMD. Additionally, FAO is also exploring the possibility of having a meeting in the area with the purpose of sharing the information present in the national databases with the WEST EURASIA Database (WED).

OIE Dr Laure Weber-Vintzel provided support to the initiative and stated that some more technical discussion are needed on the proposal to avoid duplication of existing tools and mechanisms, in particular with reference to a) the immediate and monthly notification of diseases as WAHIS already collects and publicly releases this information and b) to the coordination purpose of the initiative with the Roadmap for FMD control in West Eurasia and with the GF-TADs Europe activities. She clarified that the OIE would support that this initiative be considered under the GF-TADs' umbrella.

GF-TADs (Europe) Secretariat Dr Nadège Leboucq agreed on the purpose of the initiative, and mentioned how clarifications will be required from the GF-TADs Management Committee (next meeting scheduled on 13 October 2016) with reference to:

a) the need of including the initiative under the framework of GF-TADs Global or GF-TADs Europe. In this second case a specific agreement is needed considering that I.R of Iran falls under the remit of another GF-TADs region (Middle East);

b) the integration/articulation of the proposed initiative with the West Eurasia FMD Roadmap meeting (with exception of Russian Federation which is not included in West Eurasia Roadmap but only invited as observer);

c) the list of diseases that can be included in the initiative in relation to the priorities identified by GF-TADs Europe (at present seven diseases are prioritized and Sheep and goat pox (SGP) is not included).

It was also communicated that the GF-TADs action plan 2017-2021 is in the process of being developed and it might be the proper moment to include other diseases if needed.

EC Dr A.-E. Füssel highlighted that the purpose of the initiative is to facilitate the communication between countries without the mediation of an institution (direct communication between countries). Timely exchange of information is the most important element of the initiative. At present the immediate notification to WAHIS is not requested for endemic diseases but an active exchange of information can be relevant for the neighbouring countries when such outbreaks are reported. The information related to the vaccination is also relevant for neighbouring countries especially when it is carried out and focused on the border areas. It is important to have the initiative endorsed by the GF-TADs institutions. He also stated that if diseases different from FMD are included in the initiative it should be under the responsibility of GF-TADs. He underlined the need to use existing and recognized tools without inventing new ones.

OIE Jean-Philippe Dop reiterated that the initiative is very welcomed but should be under the GF-TADs umbrella and that in relation to information sharing, WAHIS was the system for official animal health information and should not be duplicated. He added that the modernization of WAHIS planned for the near future which will facilitate the notification and communication between countries (FAO and EU were thanked for the support received for this purpose).

The Chairman, Jean-Luc Angot thanked the country participants for their unanimous support and noted the needs for clarification, by written responses relating to the "Statement of Intentions", and to develop agreement on institutional framework and on certain reporting and other working procedures.

The core document of the “Statement of Intentions”, as circulated before the meeting, was then read from the printed copies (in English) with the exception of the appendix. It was agreed that technical aspects and the tools to better share information would be discussed in a follow-up meeting. Amendments to the text were agreed by consensus.

The final version, after amendments accepted, is attached (Annex 1).

Conclusions

1. The core document of the "Statement of Intentions", as read and amended by the participants by consensus. The initiative of facilitating the communication and information sharing between neighbouring countries was positively supported from each of the national representatives and institutional parties present.
2. A specific follow-up workshop is needed to reach consensus on the mechanisms, tools and for modalities for information sharing exchanging information. Regular meetings (including teleconferences) dedicated to exchange of updated information and to coordination of actions should be organized between neighbouring countries as an interim arrangement.

The Chairman, Jean-Luc Angot thanked the representatives for their positive support for the vision captured in the "Statement of Intentions", which he hoped would strengthen the collaboration between countries to obtain a benefit for each country and for the whole region. He trusted that the initiative would be promoted under GF-TADs and that the next OIE GS would be an occasion to meet the group of countries present at the meeting to discuss the progress made and the difficulties encountered. The EuFMD would be willing to facilitate these meetings, as support to the countries and GF-TADs. The document “Statement of Intention” will be circulated with the amendments discussed during the meeting and it would be important to have a feedback from the countries if any additional amendment/clarification is requested. He thanked FAO for offering to negotiate support for the data-sharing workshop, and to Georgia for proposing that I.R. of Iran, Turkey and the Russian Federation could join the simulation exercise as observers in July this year.

Appendix 6

Open Session 2016 - Programme

26th October - OS'16 - DAY 1

INNOVATIVE IDEAS AND OPTIONS FOR FMD MANAGEMENT

PLENARY ROOM		PARALLEL 1	
1	**OPENING GLOBAL SITUATION FRENKEL LECTURE**		
9.00	**OPENING**		
9.30	**Keynote:** VACCINATION TO LIVE (To be confirmed) (K. De Clercq)		
10.00	**Keynote:** GLOBAL FMD SITUATION (D. King)		
10.30	BREAK		
2	**THE LIVESTOCK SECTOR AND DISEASE EMERGENCIES: INNOVATION AND IDEAS**	**P1**	**GLOBAL PROGRESS AGAINST FMD: SESSION ORGANISED BY THE FMD WORKING GROUP OF FAO AND OIE**
11.00	**Keynote:** THE LIVESTOCK SECTOR: ITS PERSPECTIVES ON EMERGENCY MANAGEMENT (TITLE TBC) (V. Schuetz)	11.00	INVITED SPEAKER
11.30	A 'READINESS RATING' FOR BALANCING BIOSECURITY PRIORITIES IN FMD PREPAREDNESS AND RESPONSE (R. Horwitz)	11.30	INVITED SPEAKER
11.45	ORGANISATION OF RAW MILK COLLECTION DURING A FMD OUTBREAK (Y. Tempelman)	11.45	INVITED SPEAKER
12.00	ECONOMIC COSTS AND EFFECTS OF ACTIVITIES TO PREVENT FOOT AND MOUTH DISEASE IN DENMARK (S. Mortensen)	12.00	INVITED SPEAKER
12.15	COST AND RESPONSIBILITY SHARING ARRANGEMENTS IN THE EU TO PREVENT AND CONTROL NOTIFIABLE VETERINARY RISKS (R. H.M. Bergevoet)	12.15	INVITED SPEAKER
12.30	BREAK	12.30	BREAK
3	**HIGHER HEALTH COMPARTMENTS: THE WAY AHEAD?**	**P2**	**VACCINE EFFICACY (GFRA)**
13.30	**Keynote:** NON-GEOGRAPHICAL APPROACHES TO FMD RISK MANAGEMENT (TBC) (G. Thomson)	13.30	**Keynote:** ADVANCES AND GAPS IN VACCINE MODELLING (R. Reeve)
13.50	ADVANCEMENTS IN COMPARTMENTALIZATION AND REGIONALIZATION - OPPORTUNITIES, RELATIONSHIPS, INFORMATION AND CHALLENGES (E. Parker)	13.50	SELECTION OF FMD VACCINES IN VIETNAM (D. Do Huu)
14.10	CAPABILITY ANALYSIS AND SCENARIOS OF RESOURCES POOLING IN CASE OF FOOT-AND-MOUTH DISEASE EPIZOOTICS IN FRANCE AND TUNISIA (M. Marsot)	14.10	THE VALUE OF IN VITRO ANTIGEN MATCHING IN PREDICTING VACCINE PROTECTION (W.Vosloo)
14.25	SPREAD OF FMD SEROTYPE O-PANASIA2 IN A DAIRY COMPLEX IN IRAN (C. Bartels)	14.20	CORRELATION OF SEROLOGICAL RESPONSE AFTER VACCINATION AGAINST FMDV AND PROTECTION AGAINST CHALLENGE IN PIGS (P. L. P. Eblé)
		14.30	NOVEL MARKER FOOT-AND-MOUTH DISEASE VIRUS VACCINE MOLECULARLY BOUND TO NANOLIPOPROTEIN ADJUVANT (E. Rieder)
14.40 14.55	A RISK BASED MODEL TO GUIDE DECISIONS ON ZONIFICATION TO STOP VACCINATION IN A FREE COUNTRY WITH VACCINATION (J. L. Gonzales)	14.40	ANTIGENIC REFOCUSING OF A SAT2 FMD VIRUS THROUGH EPITOPE DAMPENING (T. Ramulongo)
		14.50	**Poster:** ESTIMATE OF CROSS-PROTECTION PROVIDED BY AN FMDV O-BFS VACCINE IN THE TUNISIAN EPIDEMIOLOGICAL CONTEXT (E. Brocchi)
		14.54	DISCUSSION
15.00	BREAK	15.00	BREAK
4	**VACCINATION AS AN OPTION: WHAT CHALLENGES REMAIN?**	**P3**	**FMD ENDEMICITY (GFRA)**
15.30	IMPROVING ACCESS TO EMERGENCY FMD VACCINE THROUGH A VACCINE BANK SHARING ARRANGEMENT (T. Smylie)	15.30	**Keynote:** ROLE OF PERSISTENCE IN FMD ECOLOGY -BRINGING TOGETHER IFORMATION FROM LABORATORY CONTROLELD EXPERIMENTS AND FIELD STUDIES (J. Arzt)
15.45	A SYSTEM FOR INTEGRATING VACCINE BANK ANTIGEN SELECTION AND SURVEILLANCE PRIORITISATION: THE PRAGMATIST TOOL (M. McLaws)	15.50	NEXT GENERATION SEQUENCING REVEALS NEW SOUTHERN AFRICAN TERRITORIES GENOTYPES BRINGING US CLOSER TO UNDERSTANDING THE HISTORY OF FMD VIRUS IN AFRICA (N. Knowles)
16.00	EARLY DECISION INDICATORS TO PREDICT THE SEVERITY OF AN FMD OUTBREAK (C. Cook)	16.00	FOOT-AND-MOUTH DISEASE IN EASTERN AFRICA: A REVIEW OF THE EPIDEMIOLOGY, PERSISTENCE AND EFFORTS TOWARDS CONTROL (S. N. Wekesa)
		16.10	GENETIC AND ANTIGENIC VARIATION OF FOOT-AND-MOUTH DISEASE VIRUS DURING PERSISTENCE IN NATURALLY INFECTED CATTLE AND BUFFALO (J. K. Biswal)
16.15	EMERGENCY VACCINATION BENEFITS ERADICATION OF HYPOTHETICAL INTRODUCTIONS OF FMD INTO NEW ZEALAND (Z. Yu)	16.20	MOLECULAR EPIDEMIOLOGY OF FOOT-AD-MOUTH DISEASE VIRUSES IN SOUTHERN AFRICA (C. Kasanga)
16.30	QUANTIFYING THE VALUE OF PERFECT INFORMATION IN EMERGENCY VACCINATION CAMPAIGNS FOR FMD (M. Tildesley)	16.30	A NOVEL MODELLING APPROACH FOR ENDEMIC FOOT-AND-MOUTH DISEASE IN SUB-SAHARAN AFRICA (M. Bronsvoort)
16.45	DISCUSSION	16.40	DISCUSSION

27th October - OS'16 - DAY 2

GLOBALIZING ACCESS TO SCIENCE AND INNOVATION: CONNECTING LIVESTOCK KEEPERS AND KNOWLEDGE LEADERS

PLENARY

5	GLOBAL AND REGIONAL FMD SURVEILLANCE
9.00	THE ORIGIN, EVOLUTION AND DIAGNOSIS OF SENECA VALLEY VIRUS, A NEW VESICULAR DISEASE-CAUSING PICORNAVIRUS OF PIGS (N. Knowles)
9.15	OUTBREAKS OF FOOT-AND-MOUTH DISEASE VIRUS IN THE MIDDLE EAST DURING 2015 AND 2016 DUE TO AN EXOTIC A/ASIA/G-VII (G-18) LINEAGE (J. Wadsworth)
9.30	FULL GENOME STUDY ON THE EVOLUTION OF THE FMD VIRUS O/ME-SA/IND-2001d LINEAGE: EVIDENCE OF RECOMBINATION (K. Bachanek-Bankowska)
9.45	GENETIC CHARACTERIZATION OF FMD VIRUSES IN BALOCHISTAN, PAKISTAN (S. M.Jamal)
10.00	THE EPIDEMIOLOGICAL TREND OF FMDV IN PAKISTAN: A STEP FORWARD TO FUTURE PLANNING TO CONTROL FMD IN PAKISTAN (U. Waheed)
10.15	**Poster:** GENETIC CHARACTERIZATION OF THE 2016 FMD VIRUSES IN SOUTH KOREA (B. Kyung Ku)
10.19	**Poster:** CURRENT STATE OF FMD SURVEILLANCE IN SENEGAL (M. Moustapha)
10.23	**Poster:** GENETIC CHARACTERIZATION OF FMD VIRUS ISOLATED DURING CROSS SECTIONAL SURVEILLANCE STUDIES IN CATTLE FROM UGANDA DURING 2014-2015 (Z. Ahmed)
10.27	**Poster:** INVESTIGATION OF FMD EPIDEMIC (OPANASIA2) IN CENTRAL REGION OF IRAN IN 2009 (TBC)
10.31 10.35	**Poster:** ANTIGENIC AND GENETIC CHARACTERIZATION OF FMD VIRUS SEROTYPE O CIRCULATING IN SOUTH-EAST ASIA (S. Upadhyaya, M. Mahapatr)
10.30	BREAK
6	**NEW INSIGHTS FROM EPIDEMIOLOGY STUDIES**
11.00	DETECTION AND MOLECULAR CHARACTERIZATION OF FMD VIRUSES FROM OUTBREAKS IN NORTHERN NIGERIA 2013-2015 (A.De Vleeschauwer)
11.15	ANTIGENIC AND EVOLUTIONARY ANALYSIS OF FMD VIRUSES FROM THE 2014-2015 OUTBREAKS IN THE MAGHREB REGION (G. Pezzoni)
11.30	CHARACTERIZATION OF FMD VIRUSES COLLECTED IN NIGERIA BETWEEN 2007 AND 2014: EVIDENCE FOR EPIDEMIOLOGICAL LINKS BETWEEN WEST AND EAST AFRICA (H. G. Ularamu)
11.45	SERO-EPIDEMIOLOGICAL STUDY OF FMD IN LIVESTOCK IN WEST LIBYA (A. S. Dayhum)
12.00	EPIDEMIOLOGICAL PARAMETERS FROM TRANSMISSION EXPERIMENTS: NEW METHODS FOR OLD DATA (S. Gubbins)
12.15	**Poster:** COMPLETE GENOME SEQUENCES OF THREE AFRICAN FMD VIRUSES FROM CLINICAL SAMPLES ISOLATED IN 2009 AND 2010 (K.De Clercq)
12.19	**Poster:** SURVEILLANCE OF FMD IN GEORGIA (M. Donduashvili)
12.23	**Poster:** THE ROLE OF SEASONAL MOVEMENT OF ANIMALS IN FMD CONTROL IN AZERBAIJAN (T. Aliyeva)
12.27	**Poster:** HORIZONTAL TRANSMISSIBILITY OF THE FMD VIRUS O/JPN/2010 AMONG DIFFERENT SPECIES OF ANIMALS (K. FUKAI)
12.31	**Poster:** MOLECULAR EPIDEMIOLOGY OF FMD SUDANESE ISOLATES IN 2012 (I.Habiballa)
12.35	**Poster:** POSSIBLE ROLE OF CAMEL AS A RESERVOIR FOR FOOT AND MOUTH VIRUS: FIELD SEROLOGIC COMPARISON WITH OTHER LIVESTOCK SPECIES (J.Emami)
12.30	BREAK

PARALLEL 1

P4	NEW VACCINES
9.00	A PRIME-BOOST VACCINATION STRATEGY IN CATTLE TO PREVENT SEROTYPE O FMDV INFECTION USING A "SINGLE-CYCLE" ALPHAVIRUS VECTOR AND EMPTY CAPSID PARTICLES (G. J Belsham)
9.15	VACCINE EFFICACY OF FMD VIRUS-LIKE PARTICLES PRODUCED BY THE BACULOVIRUS EXPRESSION SYSTEM (E. van den Born)
9.30	PROOF-OF-CONCEPT EFFICACY OF AN ADENOVIRUS-VECTORED FMD CATTLE VACCINE (TBD)
9.45	ENHANCED POTENCY AND IMMUNOGENICITY FOR CATTLE VACCINATED WITH FMD A SEROTYPE VACCINE ADJUVANTED WITH POLY (I:C) (S. Parida)
10.00	EFFECT OF THE ANTIGEN PAYLOAD, POLYVALENCY AND RE-VACCINATION IN THE PROTECTION CONFERRED BY FMD VACCINES AGAINST HETEROLOGUS CHALLENGE IN CATTLE (M. Pérez-Filgueira)
10.15	DISCUSSION
10.30	BREAK
P5	**IMPROVING CURRENT VACCINES**
11.00	APPLICATION OF INDIRECT AND AVIDITY ELISA TESTS TO ASSESS ANTI-FMDV ANTIBODIES INDUCED BY VACCINATION IN BUFFALO AND SWINE SERUM SAMPLES (A. Capozzo)
11.15	DEMONSTRATION OF EARLY PROTECTION AGAINST FMD VIRUS SEVEN DAYS POST-VACCINATION (Laure Mouton)
11.30	EFFICACY OF A FMD INACTIVATED VACCINE (AFTOVAXPUR DOE), ADMINISTERED AT A 1 ML DOSE TO SHEEP (C. Hamers)
11.45	FMDV EMERGENCY TYPE O VACCINES ARE EFFECTIVE AGAINST CHALLENGE WITH FMDV O/ALG/2013 (O IND 2001d) IN CATTLE (N., B. Singanallur)
12.00	PROTECTION IN SHEEP AGAINST HETEROLOGOUS CHALLENGE WITH SEROTYPE ASIA 1 FMD VIRUS USING HIGH POTENCY VACCINE (J. Horsington)
12.15	NO HETEROLOGOUS PROTECTION WITH FMD SAT2 SAU VACCINE AGAINST SAT2 BOT CHALLENGE (A. Dekker)
12.30	**Poster:** INDUCTION OF ANTI-FMDV NEUTRALIZING ANTIBODIES IN PIGLETS IMMUNIZED WITH NANOPARTICLES MIMICKING FMDV O1 MANISA CAPSIDS (B. Sanz-Bernardo)
12.32	**Poster:** APPLICATION OF MOUSE MODEL FOR EFFECTIVE EVALUATION OF FMD VACCINE (J.-H. Park)
12.34	**Poster:** IMMUNE RESPONSES TO FMD VIRUS IN GUINEA PIGS AFTER VACCINATION WITH CANINE ADENOVIRUS VECTOR (S. Lacour)
12.36	**Poster:** DEVELOPMENT OF A VIRULENT FMD CHALLENGE MODEL IN SHEEP (L. Mouton)
1230	BREAK

7	RISK BASED APPROACHES: WHAT HAVE WE LEARNT?
13.30	**Keynote:** PRIORITISATION OF RESOURCES FOR EARLY DETECTION OF DISEASE INCURSIONS (A. Cameron)
14.00	PREDICTED IMPROVED CONTROL OF FOOT-AND-MOUTH DISEASE TRANSMISSION BETWEEN FARMS BY USING PRECLINICAL DETECTION (N. Nelson)
14.15	DEFINING THE SPATIO-TEMPORAL SCALE OF FOOT-AND-MOUTH DISEASE VIRUS LINEAGES EMERGENCE IN THE MIDDLE EAST REGION (A. Di Nardo)
14.30	COMBINING LIVESTOCK MOVEMENT PATHWAYS WITH PHYLOGENETICS TO HELP UNDERSTAND THE SPREAD OF FMD IN SOUTH-EAST ASIA (Y. Qiu)
14.45	**Poster:** FIRST REPORT OF FOOT-AND-MOUTH DISEASE VIRUS (FMDV) SEROTYPES O ISOLATION IN PUPPIES IN IRAN (D.Abdollahi)
14.49	**Poster:** SERO-PREVALENCE AND RISK FACTORS FOR FOOT AND MOUTH DISEASE AMONG WILD AND DOMESTIC UNGULATES IN ISRAEL (E. Klement)
14.53	**Poster:** TRANSBOUNDARY HIGH RISK AREA COORDINATED EPIDEMIO-SURVEILLANCE PROGRAMME (THRACE) IN BULGARIA, GREECE AND TURKEY" (T. Alexandrov)
15.00	BREAK
8	**MEASURING IMPACT OF VACCINATION AND OTHER PREVENTIVE MEASURES**
15.30	FMD VACCINATION AND POST-VACCINATION MONITORING IN AFGHANISTAN: ISSUES AND CHALLENGES (G. Ferrari)
15.45	COUNTRY SPECIFIC VACCINE CAN EFFECTIVELY CONTROL FMD IN ENDEMIC SETTING (M. Afzal)
16.00	EVALUATION OF ROUTINE VACCINATION AGAINST FMDV SEROTYPE A LINEAGE G-VII ON LARGE SCALE DAIRY FARMS IN SAUDI ARABIA (N. Lyons)
16.15	THE LONGEVITY OF ANTIBODY RESPONSE AGAINST NON-STRUCTURAL PROTEIN IN VACCINATED CATTLE THREE YEARS AFTER FMD INFECTION (E.Klement)
16.30	THE SEROLOGICAL RESPONSE INDUCED BY INACTIVATED FMD VACCINE IN ISRAEL – CLINICAL TRIALS IN A DAIRY FARM (E. Klement)
16.45	**Poster:** SPATIO-TEMPORAL ANALYSIS OF FMD EPIDEMIC SITUATION AMONG FARM ANIMALS IN THE REPUBLIC OF KAZAKHSTAN FOR THE PERIOD OF 1955 - 2013 (S. K. Abdrakhmanov)
16.49	DISCUSSION

P6	PREVENTING FMD: TOOLS TO ASSIST DECISION MAKING
13.30	FMD IN TURKEY - LIVESTOCK MOVEMENTS AND MATHEMATICAL MODELLING (P. Dawson)
13.45	THE U.S. ANIMAL MOVEMENT MODEL (USAMM), A BAYESIAN APPROACH TO MODELING OF A PARTIALLY OBSERVED CONTINENTAL SCALE LIVESTOCK MOVEMENT NETWORK (P. Brommesson)
14.00	ENSEMBLE MODELING FOR FMD (T. Lindström)
14.15	REAL-TIME BAYESIAN DATA ASSIMILATION AND PREDICTION FOR LIVESTOCK EPIDEMICS (C. Jewell)
14.30	REAL-TIME UPDATING IN EMERGENCY RESPONSE TO FMD OUTBREAKS (W. Probert)
14.45	**Poster:**REDUCING COMPUTING TIMES OF SPATIALLY EXPLICIT FMD MODELS (S. Sellman)
14.49	DISCUSSION
15.00	BREAK
P7	**INNOVATION IN DIAGNOSIS**
15.30	DEVELOPMENT OF A NOVEL VIRUS NEUTRALIZATION ASSAY USING QRT-PCR-BASED ENDPOINT ASSESSMENT FOR RAPID DETECTION AND TITRATION OF NEUTRALIZING ANTIBODIES AGAINST FOOT-AND-MOUTH DISEASE VIRUS (Z. Zhang)
16.00	COMPETITIVE LUMINEX IMMUNOASSAYS FOR THE DETECTION OF ANTIBODIES TO FMD AND VESICULAR STOMATITIS VIRUSES IN MULTIPLE SUSCEPTIBLE HOSTS (C. K. Nfon)
16.15	TAILED PRIMERS ENHANCE REAL-TIME RT-PCR DETECTION OF FMD VIRUS (D. Lefebvre)
16.30	DEVELOPMENT OF ONE-STEP MULTIPLEX RT-PCR ASSAY FOR DIFFERENTIATION OF FMDV SEROTYPES A, O AND SAT2 CIRCULATING IN EGYPT (A.A. Shehata)
16.45	GO PRIME: IN SILICO TESTING OF rRT-PCR PRIMERS AND PROBES FOR DIAGNOSIS OF FOOT-AND-MOUTH DISEASE (E. Howson)
17.00	**Poster:** DEVELOPMENT OF A REFERENCE FOOT-AND-MOUTH DISEASE VIRUS ANTIGEN PANEL FOR THE CONSISTENT VALIDATION OF DIAGNOSTIC ASSAYS (A. Morris)
17.04	**Poster:** ESTABLISHMENT AND VALIDATION OF TWO DUPLEX ONE-STEP REAL-TIME RT-PCR ASSAYS FOR DIAGNOSIS OF FMD (L. Bakkali-Kassimi)
17.04	**Poster:** EVALUATION OF ALTERNATIVE CELL LINES FOR THE ISOLATION OF FDMV (A. Gray)
17.08	**Poster:** AN IMPROVED APPROACH TO WHOLE GENOME SEQUENCING OF FMDV IN CLINICAL SAMPLES (T. Bowden)
17.12	**Poster:** COMPARISON OF TWO COMMERCIAL NSP ANTIBODY TESTS (PRIOCHECK® AND IDVET®FMDV NS ELISAS) TO DETECT INFECTION IN VACCINATED ANIMALS (DIVA) (S. Parida)
17.16	**Poster:** DETECTION OF FMD VIRUS CARRIER CATTLE: DEVELOPMENT AND EVALUATION OF AN IGA ELISA KIT FOR O, A AND ASIA1 SEROTYPES (Krupali Parekh)
17.20	**Poster:** THE CHALLENGES OF USING IN-VITRO TESTS FOR VACCINE MATCHING (A. Bin-Tarif)
17.24 17.28	**Poster:** ISOLATION OF CAMELID NANOBODIES FOR COST EFFECTIVE DIAGNOSTICS OF FMDV IN UGANDA AND THE DEVELOPING WORLD (L. Loben)

28th October - OS'16 - DAY 3

KNOWLEDGE EXCHANGE, ENGAGEMENT, EPIDEMIOLOGY		MODELLING AND CONTIGENCY PLANNING NETWORKS		INNOVATIVE SURVEILANCE AND DIAGNOSTICS		VACCINATION PROGRAMMES NETWORK		WILDLIFE, PATHOLOGY AND PERSISTENCE	
PLENARY		**PARALLEL 1**		**PARALLEL 2**		**PARALLEL 3**		**PARALLEL 4**	
9	**EDUCATION AND KNOWLEDGE EXCHANGE**	**G1**	**MODELLING NETWORK**	**G3**	INNOVATIVE SURVEILLANCE OPTIONS FOR FIELDS USE EPIDEMIOLOGY GROUP	**G6**	IMPROVED VACCINATION SCHEDULES, FIELD TRIALS	**G8**	NEW DEVELOPMENTS IN WILDLIFE (FMDV IN AFRICAN BUFFALO+)
Organizer: J. Maud		Organizer: M. Hovarik		Organizer: EuFMD - SCRPD		Organizer: N. Lyons		Organizer: EuFMD	
9.00	TRAINING FOR CHANGE OR CHANGING THE TRAINING (TBD)	9.00	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER	9.00	EVALUATION OF ORAL SWABS FOR FMDV SURVEILLANCE (Peter Kirkland)	9.00	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER	9.00	SEROLOGICAL AND MOLECULAR SURVEILLANCE OF FMDV TRANSMISSION EVENTS OVER TIME IN AN ISOLATED AFRICAN BUFFALO HERD IN THE KRUGER NATIONAL PARK (K. Scott)
9.15 9.30	ROADMAPPING FMD TECHNOLOGY FOR SOUTH AMERICA (L. Laraia)			9.15	USE OF LATERAL FLOW DEVICE FOR SAFE AND LOW COST SHIPMENT OF FMDV SUSPECTED SAMPLES (S. Blaise-Boisseau)			9.15	FMD VIRUS PERSISTENCE AND TRANSMISSION IN AFRICAN BUFFALO (E. Pèrez)
9.00	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER			9.30	PROGRESS TO DEVELOP PRACTICAL FIELD-BASED TOOLS FOR DETECTION OF FMD VIRUS (V. Fowler)			9.30	FMD IN AFRICAN BUFFALO (SYNCERUS CAFFER): DIFFERENCES IN HOST RESPONSES BETWEEN SAT 1, 2 AND 3 IN EXPERIMENTAL AND NATURAL INFECTION (B. Beechler)
				9.45	DEVELOPMENT OF A SUCCESSFUL SURVEILLANCE MODEL FOR FMD IN PAKISTAN (M. Afzal)			9.45	DYNAMICS OF FMD IN AFRICAN BUFFALO (SYNCERUS CAFFER): CALF-TO-CALF TRANSMISSION ALONE IS INCOMPATIBLE WITH DISEASE PERSISTENCE. (A. Jolles)
				10.00	DISCUSSION			10.00	RESULTS FROM SERENGETI ECOSYSTEM (short title) (T. Lembo)
								10.15	WILDLIFE SURVEILLANCE AND CONTROL FOR FMD (T. Alexandrov)
10.30	BREAK	10.30	BREAK	10.30	BREAK	10.30	BREAK	10.30	BREAK
		G2	CONTINGENCY PLANNING AND EMERGENCY VACCINATION ISSUES NETWORK	**G4**	DIAGNOSTIC LAB PERFORMANCE AND SURVEILLANCE NETWORKING			**G9**	PATHOLOGY AND PATHOLOGICAL BASIS OF PERSISTANCE
		Organizer: M. Hovarik		Organizer: EuFMD - SCRPD				Organizer: EuFMD - SCRPD	
		11.00	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER	11.00	RESULTS OF THE 2015 PROFICIENCY TESTING SCHEME (A. Ludi)			11.00	PATHOLOGICAL CHANGE OF THE DEVELOPMENT OF THE VESICULAR LESION IN PIGS EXPERIMENTALLY INFECTED WITH THE FMD VIRUS O/JPN/2010 (M. Yamada)
				11.15	A PROCESS MODELLING APPROACH TO ESTIMATE FMD DIAGNOSTIC CAPACITY FOR OUTBREAK MANAGEMENT DECISION-MAKING (K. Walker)			11.15	FMDV- HOST INTERACTION IN A MODEL OF PERSISTENTLY INFECTED BOVINE CELLS (S. Blaise-Boisseau)

			11.30	VIBASYS AND FMDV-TOOLS: PRACTICAL RESOURCES FOR FMD VIRUS SEQUENCE ANALYSIS (P. Ribeca)		11.30	LOCALIZATION OF FMD RNA AND VIRAL ANTIGENS IN DIFFERENT TISSUES FROM APPARENTLY HEALTHY CATTLE AND BUFFALO UNDER NATURAL CONDITION IN INDIA (R. Ranjan)
			11.45	**Poster:** ANTIGEN-DETECTION ELISA PERFORMANCE VS VIRUS EVOLUTION (V. Mioulet)		11.45	DISCUSSION
			11.49	**Poster:** DO COMMERCIALLY AVAILABLE LYSIS BUFFERS INACTIVATE FMD VIRUS? (B. Wood)			
			11.53	DISCUSSION			
12.30	BREAK	12.30	BREAK	12.30	BREAK	12.30	BREAK
10	EPI TRAINING AND EPI-NETWORKS		**G5**	BIOSECURITY AND BIO-CONTAINMENT	**G7**	VACCINE QUALITY ASSURANCE (VQA) INITIATIVE	**G10**	FUNDING INNOVA-TION: Q&A
Organizer: C. Bartels			Organizer: EuFMD-STC		Organizer: EuFMD - SCRPD			
13.30	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER		13.30	A CONTAMINATED ENVIRONMENT IS AN EFFICIENT ROUTE OF TRANSMISSION FOR FMD VIRUS (C. Colenutt)	13.30	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER	13.30	FACILITATED THINK-TANKS ALL ARE WELCOME DETAILS ADVERTISED LATER
			13.45	EVALUATING THE SURVIVAL OF FMD VIRUS IN THE ENVIRONMENT (Emma Brown)				
			14.00	THE NEW ZEALAND NATIONAL BIOCON-TAINMENT LABO-RATORY PROJECT - INNOVATIVE APPRO-ACHES TO MEET TE-STING REQUIREMEN-TS IN THE EVENT OF AN FMD OUTBREAK (R. P. Spence)			
			14.15	DISCUSSION			
15.00	BREAK	15.00	BREAK	15.00	BREAK	15.00	BREAK
11	**GLOBALISING ACCESS TO KNOWLEDGE AND INNOVATION** (Plenary room)						
15.30	**Keynote:** UK EXPERIENCE OF MODELLING IN SUPPORT OF FMD CONTROL, APPLYING NEW APPROACHES TO KNOWLEDGE TRANSFER, AND TACKLING THE CHALLENGE OF MAINTAINING AND MAKING BEST USE OF GLOBAL FUNDING IN SUPPORT OF RESEARCH AND INNOVATION (N. Gibbens)						
CLOSING CEREMONY							

Training Update

The FMD Emergency Preparation Course

Upcoming Training Courses:

- 13-16 September **Workshop "Managing a Crisis"** in Budapest, Hungary
- 7-18 November **Laboratory training Course,** Pirbright Institute, UK
- 20-25 November **Real Time Training** in Kenya
- November Workshop **modelling for decision making on vaccination.** Dates and location to be confirmed
- 14 November-9 December (tentative)**: online FMD Emergency Preparation Course** for Member States

FMD Emergency Preparation Course

The online FMD Emergency Preparation Course (FEPC) has been delivered to around 900 veterinarians from Member States so far during the 2015-2017 EuFMD programme. 500 had already been trained under the 2013-15 programme.

There have been three courses in English with participants from different countries interacting and sharing experiences. Tailored national courses have been run for veterinarians in Spain, UK and France with content from the EuFMD and the specifics of the contingency plans and procedures in the country. These national courses often lead to the liveliest debates and discussions amongst participants.

There are several National FEPC scheduled for Autumn 2016 and one for participants from different Member States, 14th November-9th December (tentative).
The courses are getting positive feedback and we welcome suggestions for even more improvements.

Field visit during Real Time Training in Kenya with the NTC24 group (Laura Sighinas).

Real Time Training

The Real Time Training (RTT) held in Nakuru, Kenya was implemented for the 24th time in June 2016. The participants now have plans to deliver cascade training in their countries equipped with EuFMD training material. The 23rd Nakuru Training Course (NTC) in February was a special edition with 22 German participants. This initiative also had preparatory and follow up in training Germany supported by EuFMD.

The next RTT in November is currently full but we invite you to nominate participants for the course in the spring 2017.

The EuFMD networks are a way to facilitate discussions and information sharing between colleagues involved in FMD preparedness in Member States.

Some features include:

- Three networks: contingency planning, modelling, vaccination
- Regular webinars
- Discussion forum
- Online resources: contingency planning knowledge bank
- Database of experts
- Webinar recordings available on EuFMD e-learning site

To join the networks please send an e-mail to eufmd-training@fao.org specifying which network you are interested in. We encourage you to also advertise this to colleagues.

Pilot cascade training in Italy

Last month, a Foot-and-Mouth disease preparedness training was carried out for Italian Official Veterinarians with the launch of a cascade training initiative. The training was a joint project between the Italian Ministry of Health and Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER), FMD Reference Laboratory with support from EuFMD. It was a two day course with lectures, exercises and discussions. The trainees are now expected to deliver training in the same format to Veterinarians in their regions using EuFMD presentations, videos, factsheets and exercises. We congratulate the Italian organizers for all the hard work with translations and preparation with this training. This was a pilot course, for other training initiatives to be carried out in Member States.

FMD training at the Italian Ministry of Health.

Practicing biosecurity procedure during FMD training in Italy.

We will be sharing the findings of this training in a webinar for all EuFMD training focal points in September, and we encourage you to get in touch with the EuFMD training team if you are interested in a similar project in your country.

Workshop "Managing a crisis"

On the 13th -16th of September 2016, 19 participants from 16 Member States will get together in Budapest, Hungary to discuss effective principles of FMD Emergency Management and Communications.

The workshop will cover activities before, during and after an outbreak. In order to leave as much time as possible for discussions, some principles will be taught online leading up to the workshop, on the EuFMD e-learning site.

We will have the pleasure of assistance from experts from the Danish Emergency Management Agency, Danish Food and Veterinary Administration, UK Animal and Plant Health Agency and a risk communications expert consultant.

The lessons and outputs from the workshop will be shared with all Member States including through a webinar and the development of guidelines and tools.

EuFMD Training 2017

- **Workshop: simulation exercises**
- **Workshop: putting vaccination into practice**
- **Online course: Risk based FMD surveillance**
  - Three places per Member State are available
  - No cost of training credits
  - More information to follow

Contact us:

eufmd-training@fao.org

EuFMD web page

Twitter: @EuFMD

Training Focal Point web page

The EuFMD Open Session is held every two years and has become the largest technical and scientific meeting on FMD to be held on a regular basis. Join us in Portugal in October!

Curriculum Vitae

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Academic Education and Degrees
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Present Professional Position
Deputy Director, Head Biosafety

The Institute of Virology and Immunology (IVI) is the Swiss national reference laboratory for the diagnosis, surveillance and control of highly contagious epizootics such as fowl pest (avian influenza), foot-and-mouth disease and classical swine fever. In addition, the IVI pursues research both on these viruses and emerging viral diseases (e.g. West Nil, SARS etc.), as well as their potential transmission to man. It is the approval authority for vaccines and sera for animals. The Swiss reference centre for rabies (Swiss Rabies Centre) is part of the IVI and in charge of rabies diagnostics both in the veterinary and human sector. The IVI is also the competent authority issuing the licences required for the sale of veterinary immunobiological products. The IVI is part of the Federal Food Safety and Veterinary Office (FSVO).
As part of its mandate, the IVI is interacting with many different national and international bodies and organisations. Teaching and training in virology, immunology and biosafety is also part of the mandate of the IVI

Kathrin Summermatter is involved in Biosafety for more than 15 years. Since 2002 she is the head of biosafety and since 2006 the deputy director of the Institute of Virology and Immunology (IVI), the Swiss reference lab for highly infectious animal diseases (BSL3Ag / BSL3 / ABSL3). In addition, she was the coordinator of BIOSAFETY-Europe and a consortium member and working package manager (training) of ECDC's Biorisk Expert Group (2009-2011). She served as member of numerous governmental and international panels (e.g. OIE Biorisk management advisory group) to improve regulation and management of biosafety. She is the acting chair of the Swiss Biosafety Association and has been a long-standing member of ABSA, the International Veterinary Biosafety Workgroup (acting chair), EBSA and was the president of EBSA in 2003/2004. Since 2014, she is a member of the variola virus (smallpox) repository inspection team of the WHO.
Along providing expertise and consultative services to both private companies and

government institutions on matters of biosafety and biosecurity, containment issues and safe operating procedures, she has given many lectures and taught courses to national and international audiences.