Food and Agriculture Organization of the United Nations

eufmd
european commission for the control of foot-and-mouth disease

Improving Foot-and-mouth And Similar Transboundary animal diseases vaccine security through stakeholder engagement

Virtual meeting

25th January 2022

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

Funded by the European Union

EuFMD's programme, tools and initiatives

FAST
Foot-and-mputh And Similar Transboudary animal diseases

Dt
eufmd digital transformation

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vlearning
eufmd virtual learning centre

microLearning
eufmd virtual learning

vlc EA
virtual learning centre for East Africa

Tom
eufmd training management system

SimExOn
simulation exercises online

KnowBank
eufmd knowledge bank

GetPrepared
emergency preparedness toolbox

RiskComms
risk communications

SQRA
a method for spatial qualitative risk analysis applied to fmd.

Pragmatist
prioritization of antigen management with international surveillance tool

EuFMDiS
european foot-and-mouth disease spread model

Impact
impact calculator

Vademos
fmd vaccine demand estimation model

GVS
global vaccine security

PQv
vaccine prequalification

PCP
progressive control pathway

PSO
pcp practicioner officers

VPP
veterinary paraprofessionals

PPP
public private partnership

Sustainable development goals, UN-SDGs. EuFMD's programme has a focus on

Together agains wasting resources, think twice before printing.

Contents

Summary

This virtual workshop was a follow-up to the meeting 'Explore options to improve security of vaccine supply against Foot-and-Mouth and other similar transboundary diseases (FAST)', held in January 2020 at the FAO headquarters, in Rome. This virtual event hosted over 80 delegates from public and private firms, national and international organizations with expertise in areas relevant to FAST vaccine security.
The main objective of the workshop was to improve access to quality vaccines against FAST diseases through multidisciplinary Private Public Stakeholder Platforms (PPSPs).

The workshop focused on a number of issues critical for FAST vaccines security:

- Vaccine prequalification system (PQv);
- Vaccine demand estimation, utilizing VADEMOS (Vaccine Demand Estimation Model – FMD);
- The impact of the Nagoya Protocol on vaccine development;
- How PPSPs could be utilized effectively to address these issues and improve the availability and deployment of FAST vaccines;
- In addition, updates from the AgResults FMD Vaccine Challenge Project in Eastern African were discussed to provide a paradigm for private-public partnerships in facilitating vaccine security.

The main actions agreed were:

- EuFMD needs to develop and implement the PQv procedure that is cost-effective for stakeholders and optimises resources to ensure an efficient system that enhances vaccine security;
- EuFMD should consider how FAST disease vaccines developed using novel technologies that have been authorized by a national regulatory authority capable of assessing such technologies, could be incorporated within the scope of PQv;
- Stakeholders should provide input for the further development of the VADEMOS model. A user group will be created aiming at finalizing the model;
- VADEMOS will be tested with different disease and user groups. Outcomes will be presented at the EuFMD Open Session in October, 2022;
- The Multi-Stakeholder Platform (MSP) will prepare a document describing the practical impact that application of the Nagoya Protocol is having on the development of vaccines against FAST diseases, which can be fed into discussions between multinational organizations who are developing guidance on the application of the protocol.

Item 1. Secretariat and Participation

The meeting was organized under the framework of the Phase V EuFMD workplan with the EuFMD as Secretariat for the meeting.

Over 80 participants attended the meeting, representing a wide array of public and private organizations involved in the production, supply, and regulation of FMD vaccines and the control of Transboundary Animal Diseases (TADs), spread across nations in and out of Europe. The list of participants and the organizations they represent is given in Appendix 1.

Item 2. Opening

The meeting commenced with a welcome address from the Chief Veterinary Officer and Acting Director of the Animal Heath and Production Division of the FAO, Keith Sumption. He highlighted the importance of vaccine security in the control of FAST diseases and emphasized the importance of the multi-stakeholder platform (MSP) in identifying and resolving the various constraints to vaccine security. He recognized the ongoing work of EuFMD and stated that the meeting would serve as a forum to evaluate the progress made on the agreed actions from the 2020 Rome meeting and to improve on them.

Item 3. Objectives

The aims and objectives of the meeting were highlighted as:

- Update participants with progress on establishing a sustainable PQv system with an initial focus on FMD vaccines;
- Seek the views of stakeholders on the role that PQv can play in long-term agreements (LTAs) for supply of FMD vaccines in the context of Assured Emergency Supply Options (AESOPs);
- Reflect on how work within the PPSP can influence wider policy decisions on use of vaccines by public and private sectors;
- Provide an opportunity for stakeholders to identify any impact that the Nagoya protocol may have on timely access to novel genetic materials;
- Demonstrate the VADEMOS model for estimating vaccine demand and seek feedback on how outputs can be used to promote vaccine security;
- Receive an update from the AgResults FMD Vaccine Challenge Project as an example of an operational initiative to engage the private sector in increasing FMD vaccine availability in Eastern Africa.

Item 4. Workshop Agenda

The workshop was divided into a morning session of presentations and discussion, followed by three breakout sessions in the afternoon on PQv and LTAs, VADEMOS, and the AgResults Project. The breakout sessions had short introductory presentation(s) followed by moderated discussion with rapporteurs capturing key points for feedback to the plenary session.

Morning Session

The Deputy Executive Secretary of EuFMD, Fabrizio Rosso, started with a report of the progress made by EuFMD in implementing the actions agreed during the Rome meeting. Programs implemented by the EuFMD include establishment of a functional MSP to implement actions related to vaccine security; establishment of a Technical Advisory Group and a Steering Committee on the PQv; and the development of VADEMOS model to facilitate vaccine demand estimation. In addition, EuFMD was coordinating the implementation of a joint study on behalf of FAO and the US Bureau of Humanitarian Affairs, to explore the feasibility of setting up a separate but related system for pre-qualification of veterinary medicines (PQm). The workshop aimed at seeking the opinions of private and public experts in driving these projects to successful and sustainable implementation. Other programs of EuFMD were to enhance FAST vaccines security through the development of tools for identification of priority FMD vaccine strains and supporting Sustainable Business through training for Veterinary Paraprofessionals (VPPs) project in selected African nations.

Martin Ilott (EuFMD), the Project Manager for the PQv, presented an update on the implementation of the PQv system. With the aim of implementation in 2022, a proposal has been developed by a multistakeholder Technical Advisory Group on Pre-Qualification of vaccines against FAST diseases (PQTAG) in close cooperation with WHO and OIE that is complementary to the OIE vaccine bank procedures. Also, a Standing Committee on Pre-Qualification of Vaccine (SCPQv) against FAST diseases has been established that is intended to act as the decision-making and governance committee for the PQv procedure. The SCPQv will play a key role in the functioning of the PQv procedure providing an oversight to the procedures defined within the PQv, guiding its development and implementation, and formally approving recommendations from expert evaluation teams for the inclusion of veterinary vaccines for FAST disease onto a published list of prequalified vaccines. The SCPQv includes members nominated by EuFMD Member Nations and it is proposed that representatives from partner organizations including European Commission (EC), European Medicines Agency (EMA), OIE, WHO, FAO, and Pan African Veterinary Vaccine Centre (PANVAC), are included in the Committee. During the implementation phase, the PQv procedure will be run by the EuFMD for vaccines against FMD on behalf of Member Nations, and may be expanded to include vaccines against other FAST diseases and for other animal disease control programmes operated by FAO. Mr. Ilott identified the next steps as: develop the business case for long-term sustainability of the PQv system to ensure adequate resources and funding; identify suitable experts to comprise the PQv evaluation teams, ensuring no conflicts of interest; engage with FMD vaccine manufacturers to determine the extent of interest in submitting applications during the implementation phase; develop robust data handling systems and legal provisions for confidentiality of PQv; and design a communication plan for stakeholders.

Mr. Carel du Marchie Sarvaas (HealthforAnimals) followed with a presentation on PQv from the perspective of the industry. Manufacturers are key players in FAST vaccine security and they encounter significant

challenges in ensuring long-term supply of vaccines. He highlighted that PQv offers solutions to some of these concerns, through improvement in long-term predictability of supply and investment, by accelerating marketing registration procedures and by reducing the potential for additional testing of vaccines already produced to quality standard. However, he cited that the decision of public and private stakeholders in using FAST vaccines are influenced by a multitude of factors including knowledge of the disease and its negative impacts, awareness of the socio-economic benefits of vaccinations, and national and regional policies. A thorough understanding and consideration of these issues is key to positively influence stakeholders' willingness to use vaccines.

Mr. Pascal Hudelet (Boehringer Ingelheim) delivered a presentation concerning the Nagoya Protocol (NP) and its impact on FAST vaccines research and development. The NP aims at creating fair and equitable sharing of benefits arising from the utilization of genetic resources, and it applies to utilization of certain non-human genetic resources (GR). Prior to starting any research and development work on a GR, it is important for vaccine manufacturers to understand whether the GR is covered by the NP and, if so, whether it was acquired according to any applicable provisions of the NP. Some countries have extended the definition of 'utilization' in the NP to include some key areas of vaccine development including vaccine matching and strain screening. Manufacturers argue that these procedures should not be interpreted as utilization. Vaccine matching evaluates the protection offered by vaccine strains against field isolates and should be interpreted as diagnostic use, while screening is a preliminary stage to determine predefined characteristics in strains in order to identify a suitable vaccine candidate. These broad interpretations are delaying FAST vaccine development due to difficulties encountered in approaching and gaining approval from countries implementing the NP. He cited several cases experienced in Africa and Asia, where the development of new vaccine strains in these endemic regions had either been delayed or cancelled due to significant issues arising from national NP regulation or the lack of clarity surrounding its application.

Madhur Dhingra (FAO), representing the Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs), delivered the last presentation. She gave a comprehensive review on the barriers encountered in accessing and supplying quality vaccines against TADs and the role of GF-TAD in assisting member nations to reduce these barriers. The GF-TADs Global Strategy was recently revised for 2021 – 2025 with multi-stakeholder partnerships identified as a major strategy for the sustainable control of TADs, especially for vaccine security. In a bid to facilitate multi-disciplinary cooperation for TADs control, several programs and initiatives have been developed involving public and private stakeholders including farmers associations, veterinarians, vaccine manufacturers, and reference laboratories. These activities cut across providing affordable and efficient means of access to and delivery of resources, design and implementation of fit-for-purpose vaccinations, developing guidelines for post vaccination monitoring, and providing expertise to govern national and regional disease control. Recently, a partnership and financing panel was established to aid in financing sustainable partnerships and designing funding mechanisms for TADs control. Specifically for FMD, the GF-TADs is actively strengthening sample submission for virus sequencing and vaccine matching by FAO/OIE FMD reference laboratories, promoting immunogenicity studies and sharing of results, and evaluating the success of vaccination programs.

Discussions

David Mackay (EuFMD) chaired the discussion session, which focused on questions and issues related to the presentations. The main questions and conclusions were:

- Can this Multi-Stakeholder Platform (MSP) influence decisions on the use of vaccination for control of FMD?
  - An MSP for FAST vaccines convened by EuFMD creates a unique forum bringing together public and private stakeholders.
  - The successful cooperation on the VADEMOS vaccine prediction model and on the system for PQ already show the benefits in practical terms.

- How can PQv be used to maximize vaccine security for FMD vaccines?
  - It offers an independent system for reliance assurance which improves confidence in vaccines.
  - Assist risk managers to access reliable information on vaccines that meet at least minimal international standards.
  - Assist countries with weak or inexperienced regulatory authorities to approve FMD vaccines.

- Does the NP have an impact on access to genetic material that could be used to control outbreaks of new strains of FAST diseases in livestock?
  - Manufacturers have created a problem statement with practical examples of the impact that the NP has on their ability to access genetic material and consequent reduced capacity to control occurrence and spread of new strains.

- If so, what role could this MSP play in ensuring access when required?
  - EuFMD will convene a group of experts within the context of the MSP to consider this problem statement and if there are actions, public and private stakeholders could take to address the issues identified.

- Are there additional actions the MSP could take to promote vaccine security?
  - Stakeholders should engage in actively developing the VADEMOS model for estimating vaccine demand as accurate estimation provides evidence to manufacturers on which to predict the size of markets and thereby reduce the risk of investing in FAST vaccine production. Accurate prediction also helps risk managers in planning for, and obtaining, adequate supplies of appropriate vaccines.

- What is the role of GFTADs in improving access to quality vaccines?
  - When established, GFTADs should promote the use of vaccines included on the PQv list within control and eradication programs to ensure that any vaccine used is of an appropriate quality.

Breakout Sessions

Breakout Session 1 – PQ and Long Term Supply Arrangement (AESOPs)

This session aimed at seeking the views of stakeholders on operating the PQv to increase production capacity and support Long Term Supply arrangements (LTAs) through Assured Emergency Supply Options (AESOPs). David Mackay (EuFMD) chaired the session and he commenced with a short introduction on PQv, followed by questions and contributions from participants.

Conclusions:

- The PQv is a key element to long-term supply arrangement, and the business case for PQv needs to be developed to ensure there are sufficient incentives for manufacturers to submit applications and engage with the PQv process.
- Standards for PQv should not be set at such a high level of stringency that they restrict the potential market for suppliers of FMD vaccines that are considered a strategic priority.
- The need for the system for PQv to include laboratory tests for monitoring vaccine quality at an appropriate stage of development was highlighted. Manufacturers should be encouraged to provide post-vaccination sera from vaccine batches for monitoring the potency of the prequalified vaccine.
- Whilst PQv assesses the performance of a vaccine in relation to the claim made by the manufacturer, vaccine users also need information in relation to the 'fitness-for-purpose' of the vaccine strains in relation to field outbreak strains. EuFMD should explore ways in which this information on epidemiological relevance can be linked to vaccines on the PQv list.
- The PQv system could be extended in future to cover emergency PQ and possibly novel and innovative technologies. However, the PQ system is not a regulatory procedure and the current model requires the product to have already been approved by at least one National Competent Authority. It was recognized that PQv could be extended in future to vaccine based on novel technologies but only if the regulatory authority that issued the original authorization and PQ scientific evaluators had expertise in the relevant field.
- The PQv system is complementary to the VADEMOS model.
- The ultimate outcome of PQv should be that risk managers are guided to make better decisions. PQv should be supplemented in future by annual training on selection and procurement of FMD vaccines that are both of high quality and fit for purpose.
- The PQv list should include sufficient details of vaccines to provide information on the properties and actual availability, in terms of supply times and quantities, of quality vaccines for procurement to address actual disease outbreaks.
- It is important to look at lessons learnt from previous initiatives implemented by FAO to assure quality of supply for other types of product (such as insecticides) and to keep stakeholders involved in the development of the system.
- FAO should consider restricting tenders for FAST vaccines to those that are approved under PQv.
- The importance of information technology and digital tools in facilitating effective vaccination has been demonstrated by the Covid-19 pandemic. As a supplement to the PQv system, EuFMD and vaccine suppliers could cooperatively develop innovative tools and platforms to monitor and manage the delivery and use of pre-qualified vaccines.

- The importance of maintaining the cold chain for the delivery of pre-qualified vaccines should not be neglected.

Breakout session 2 – Estimating future vaccine demand

The session introduced the VADEMOS model to the participants and sought their advice on ways to better improve its mode of operation and scope of application. The session was moderated by Bouda Ahmadi (EuFMD), who gave a detailed analysis of the VADEMOS model. It is a decision support tool that provides vaccine dose quantity estimates, which can aid a country in planning for the volume of vaccine doses required several years ahead. By providing a vaccine dose estimate, the model will highlight the deficit in vaccine supply to FMD endemic countries to date and hopefully highlight the need to relevant stakeholders of better investment in FMD vaccines globally.

Conclusions:

- For epidemic diseases like FMD, it is difficult to predict demand considering the possibility of sudden outbreaks.
- FMD vaccine production is often tailored to country needs considering variations in prevalent strains, and production of vaccines in excess of demand results in huge losses as the vaccines cannot be marketed in other countries. Hence, manufacturers need accurate demand estimation tools to avoid under- and over-supply of vaccines.
- VADEMOS should be tested and validated with different user groups such as industry and government.
- The model is primarily for FMD vaccine use in cattle, and could be applicable to other livestock diseases and species, though this is yet to be evaluated.
- Applicability to different diseases and species offers investment options and resource demand information for manufacturers, governments, and other investors.
- Considering country strain variations, the model should be developed to estimate specific serotype and strain demands. This would increase its complexity.
- The model can be tested with an easily adaptable disease, such as lumpy skin disease (LSD), and with different user groups over the next two or three months. Outcomes and feedbacks will be presented at the Open Session in October 2022.

Breakout session 3 – AgResults FMD Vaccine Challenge Project update

The session aimed at engaging key public sector stakeholders from Eastern Africa and key industry stakeholders (FMD vaccine manufacturers) on how best public and private sectors can cooperate to bring effective FMD vaccines to market in the region, particularly through the AgResults FMD Vaccine Challenge Project. Public stakeholders in this session include representatives of Heads of National Regulatory Authorities for Veterinary Medicines and Chief Veterinary Officers of countries in East Africa. Jeffery Hammond (GALVmed) chaired the session; he started with an overview of the AgResults FMD Vaccine Challenge Project in Eastern Africa. Officially launched in January 2020, the AgResults (FMD) Vaccine Challenge Project is an eight-year, US$17.68 million prize competition that supports the development and uptake of high-quality FMD vaccines tailored to meet the needs of Eastern Africa. The prize is structured as a cost-share that reduces the cost-per-dose for buyers, enabling public and private sector actors to better combat FMD through more consistent purchases of the new vaccines. Vaccines eligible for this project must

protect against field strains from all four serotypes (A, O, SAT1 and SAT2) circulating in Eastern Africa and must be registered in at least two of the participating countries. Approved vaccines will benefit from the cost-share mechanism, whereby the project will fund a portion of the sales price of the vaccines purchased by government and private sector buyers, for a target volume of vaccines.

David Mackay followed with an update on the harmonization of marketing authorisation of FMD vaccines in Eastern Africa. The East African Community Mutual Recognition Procedures Guideline 2 (EAC- MRP GL2) has been annotated with specific reference to FMD vaccines and provides the basis for harmonization of authorisations in line with at least the minimum international standards for FMD vaccines defined in the OIE Terrestrial Manual. It is relevant for both national procedures and MRP, even in those countries in Eastern Africa that are not members of the EAC. The EAC Technical Working Group (EAC TWG) has agreed a set of recommendations on the application of the annotated EAC MRP GL2 including on the choice of suitable vaccine strains. The Eastern Africa Foot and Mouth Disease Virus Reference Antigen Panel provides a valuable tool to assist the selection of vaccine strains in line with the annotated GL2.

Donald King (World Reference Laboratory for FMD, Pirbright Institute), briefly discussed the role of the East African FMDV Reference Antigen Panel established by World Reference Laboratory for Foot and Mouth Disease (WRLFMD), AU-PANVAC, and OIE. It is a broad panel comprising 16 regional representative FMDV strains to evaluate the efficacy of FMD vaccines against FMDV lineages circulating in East African countries. The panel serves as an eligibility checker for the AgResults FMD vaccine project; vaccines must provide protection against an acceptable percentage of the 16 strains to qualify for the project.

Conclusions:

- The use of the Eastern African FMDV Reference Antigen Panel provides a valuable tool for evaluating the relevance of vaccines for use in Eastern Africa that is independent of manufacturers.
- Panel strains were picked to be as diverse as possible to cover the spectrum of circulating strains in the region.
- The panel evaluation provides an important reference point for a harmonized regional approach for registration of FMD vaccine dossiers.
- The reference panel should be regularly updated through intensive surveillance and post-vaccination monitoring which necessitates improvement in capacity building and laboratory capability.
- FMD control in the region will remain only an aspiration without functional partnerships and support. There need to be improved mechanisms for acquisition of funding for FMD vaccine purchase and roll out of vaccination programs. Similarly, manufacturing capacity across the region is lacking, hence, the need for manufacturer's partnerships. Importantly, governments should provide strong support for these partnerships.
- Participants expressed strong interest in regional control strategies, which was the major tool for rinderpest eradication. This serves to overcome the different and conflicting policies at national level. Involvement of the EAC Council of Ministers and Regional Roadmap Meetings attendees should be encouraged to broaden the number of stakeholders involved in tackling the biggest challenges of FMD.

Conclusions, Recommendations, and Actions from the Workshop

MSP and Vaccine Security

- Vaccine security is a key challenge to the successful implementation of the GF-TADs strategy; the MSP provides a forum for detailed analysis of challenges identified and for developing solutions for FMD vaccines in the first instance that may then be applicable more generally to other FAST diseases.
- Stakeholders are encouraged to engage with the further development of the PQv system during the implementation phase to ensure that the system developed provides added value in terms of assuring the quality of products that are pre-qualified without placing onerous requirements on manufacturers to ensure they perceive benefits from engaging with the system.
- Regional coordination and a regional approach to vaccination promotes vaccine security through agreement on the choice of strains and vaccines that are suitable for use following the epizonal approach. This reduces the risk for manufacturers to enter the market and improves sustainability of the market for authorised vaccines.

PQv and LTAs

- PQv should be supplemented with product testing both for strain selection and for quality assurance. PQv can be used to promote the availability of reagents and sera that are needed for quality assurance purposes, for example confirming the potency of prequalified vaccines by the use of post-vaccination sera generated in batch potency tests.
- Authorization (licensing/registration) is perceived as a blocking factor to vaccine availability within GF-TAD strategy due to the complexity and time frame for approvals. Hence, PQv should support regulatory agencies in LMIC in developing their licensing systems and in promoting access to PQv vaccines in countries with poorly functional national regulatory agencies. For example, EuFMD could help develop vaccine guidance for these countries that align with the requirements of the PQv system.
- PQ is not a solution on its own; to be useful to risk managers it needs to be linked to information on FMD strains and vaccines that are actually available and the capacity of manufacturers to supply.

AgResults FMD Vaccine Projects

- The AgResults FMD Vaccine Challenge Project is successfully engaging the private sector to improve access to high quality FMD vaccines containing strains appropriate for use within the Eastern Africa region.

Vaccine Demand Estimation

- Improving the accuracy of FAST vaccine demand estimation promotes vaccine security by confirming the market size for manufacturers and providing evidence on which risk managers can base decisions on future procurement.
- Stakeholders should provide input for the further development of the VADEMOS model. A user group will be created aiming at finalizing the model in the upcoming months.

The Nagoya Protocol

- The MSP will prepare a document describing the practical impact that application of the Nagoya Protocol is having on the development of vaccines against FAST diseases, which can be fed into discussions between multinational organizations and national governments who are developing guidance on application of the NP.

Appendix I

List of participants

List of Participants

Name	Surname	Institution
Mr Fabrizio	ROSSO	The European Commission for the Control of Foot-and-Mouth Disease (EuFMD)
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Appendix II

List of Abbreviations

AESOPs - Assured Emergency Supply Options

AU-PANVAC - African Union Pan African Veterinary Vaccine Centre

EAC - East African Community

EAC TWG - East African Community Technical Working Group

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

FAO - Food and Agricultural Organization of the United Nations

FAST - Foot-and-Mouth and other Similar Transboundary Diseases

FMD - Foot-and-Mouth Disease

GALVmed - Global Alliance for Livestock Veterinary Medicines

GF-TADs - Global Framework for the Progressive Control of Transboundary Animal Diseases

GR - Genetic Resources

LTA - Long-term Agreements

MSP - Multi-Stakeholder Platform

NP - Nagoya Protocol

OIE - World Organization for Animal Health

PQm - Pre-Qualification of Veterinary Medicines

PQTAG - Technical Advisory Group on the Prequalification of Vaccines

PQv - Prequalification of Vaccines

PPSP - Private Public Stakeholder Platform

SCPQv - Standing Committee on Pre-Qualification of Vaccines against FAST diseases

VADEMOS - Vaccine Demand Estimation Model-FMD

WHO - World Health Organization

WRLFMD - World Reference Laboratory for FMD

EuFMD Committees

Executive Committee, Standing Technical Committee (STC), Special Committee for Surveillance and Applied Research (SCSAR), Special Committee on Biorisk Management (SCBRM), Tripartite Groups.

Hold-FAST tools

AESOP. Assured emergency supply options; **EuFMDiS**, FMD spread model; **GET PREPARED** toolbox. Emergency preparedness; **GVS**. Global Vaccine Security; **Impact Risk Calculator**; **Online Simulation Exercises**; **Outbreak Investigation application**; **Pragmatist**. Prioritization of antigen management with international surveillance management tool; **PCP-FMD**. Progressive Control Pathway for foot-and-mouth disease. **PCP-Support Officers**; **SAT.** PCP Self-Assessment Tool; **RTT**. Real Time Training; **SMS Disease reporting**; **SQRA toolkit**. A method for spatial qualitative risk analysis applied to FMD; **Telegram**; **TOM.** EuFMD training management system; **Global Monthly reports**; **VADEMOS**. Vaccine Demand Estimation Model; **VLC**. Virtual Learning Center. Microlearning.

United Nations Sustainable Development Goals (UN-SDGs)

EuFMD's programme has a main focus on

Thinking of the environmental footprint

Together against wasting resources, think twice before printing.

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