Food and Agriculture Organization of the United Nations

WORLD ORGANISATION FOR ANIMAL HEALTH

African swine fever: An unprecedented global threat

A challenge to livelihoods, food security and biodiversity

Call for action

Report of the webinar
26-30 October 2020

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Background

African swine fever (ASF) is one of the most devastating diseases affecting pigs across the globe today. Outbreaks of ASF result in massive direct and indirect losses to the swine industry, making it economically devastating in countries with highly industrialized pig farming but also in those countries with small-scale or backyard pig production. Despite prevention and control efforts, ASF is present in wild or domestic pigs in regions of Asia, Europe and Africa and has led to an unprecedented crisis in the global pig sector. The current situation presents a global risk to animal health and welfare, national and international economies, rural development, national food security and national and international markets.

Building upon the experience of the long-standing collaboration between the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE) for the management of animal health-related risks, and in response to the request made at the 87th OIE General Session, the joint FAO–OIE Global Framework for the Progressive Control of Transboundary Animal Diseases (GF-TADs) launched the Initiative for the Global Control of ASF in July 2020 with the aim of fostering national, regional and global partnerships to strengthen control measures and to minimize the impact of this complex and challenging disease.

It was also recognized that efforts would be needed to promote the Global Initiative, including an international event to call on countries and partners to join forces against this deadly pig disease. In response, FAO and the OIE organized the GF-TADs webinar **African swine fever: An unprecedented global threat - A challenge to livelihoods, food security and biodiversity. Call for action** on 26–30 October 2020.

Webinar objectives, participation and programme

OBJECTIVES

The main objectives of the webinar were to:

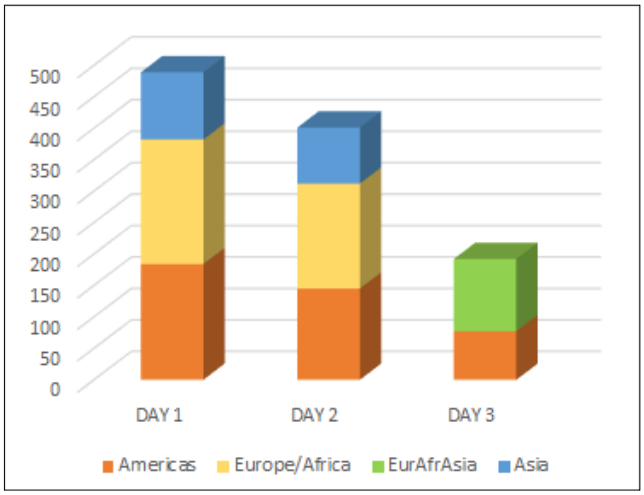
- review existing and recently developed tools, mechanisms and practices to address the introduction and spread of ASF; and
- make a global call for action to adopt and implement the GF-TADs Initiative for the Global Control of ASF.

PARTICIPATION

A total of 594 participants attended the webinar. Day 1 was attended by 471 participants, Day 2 by 379 participants, and Day 3 by 185 participants.

Number of participants per region

	Europe/Africa	Asia	Americas	Total
Day 1	198	107	184	471
Day 2	167	89	145	379
Day 3	115		77	185
Total	**388**		**233**	**594**



PROGRAMME

The three-day webinar comprised video-recorded welcome addresses from FAO and OIE Directors- General, followed by introductory presentations from the OIE and FAO, six technical sessions, question-and-answer sessions, and a closing statement with a Call for Action by Deputy Director-General of the OIE and Chief of Veterinary Service of FAO.

Welcome addresses

Both welcome addresses underlined that the global spread of ASF shows no signs of slowing down. More than 50 countries in Africa, Asia and Europe are currently affected, and the Americas are trying to prevent incursion into their territory.

"Our goal is to prevent the spread – and ultimately eradicate – this disease, leveraging the latest science, best practices and international standards," said FAO Director-General QU Dongyu in his video message to the participants. "If not controlled, this disease will jeopardize progress towards achieving the Sustainable Development Goals," he continued, calling on all stakeholders to take action to stop the spread of ASF, promote animal health and welfare, and safeguard the livelihoods of farmers.

"Today, no country is safe from African swine fever," said OIE Director-General Monique Éloit. "The number of countries across the world reporting outbreaks to the OIE continues to grow. This corresponds to the biggest animal disease outbreak of our generation." She stressed the need for continued investment in veterinary services and the effective implementation of international standards, particularly those related to biosecurity and surveillance, to bring ASF under global control.

The welcome addresses were followed by introductory presentations from the OIE and FAO to set the scene.

OIE presentation on the Global Initiative

The OIE, in collaboration with FAO, created a joint high-level technical ASF Working Group under the GF-TADs to address the strategic challenges for the control of ASF. In July 2020, the Global Initiative for the Control of ASF (http://www.fao.org/3/ca9164en/ca9164en.pdf) was launched, as mandated by Resolution N°33 at the 87th General Session of the World Assembly of OIE Delegates. The Global Initiative builds on the lessons learned from existing global animal disease control and eradication strategies under the GF-TADs. It provides a logical results framework and associated two-year operational plan to achieve the global control of ASF. The Global Initiative was developed with the understanding that the control of ASF is feasible with the current risk mitigation tools, but its success will require strong national leadership, regional support and global coordination.

MEMBERS OF THE ASF WORKING GROUP

- **Charles Bebay**, *Regional Manager, ECTAD Eastern Africa, FAO*
- **Akiko Kamata**, *Animal Health Officer, FAO*
- **Andriy Rozstalnyy**, *Animal Health Officer, FAO*
- **Caitlin Holley**, *Regional Project Coordinator, Regional Representation for Asia and the Pacific, OIE*
- **Jee Yong Park**, *Scientific Officer, OIE*
- **Gregorio Torres**, *Head of Science Department, OIE*

The Global Initiative has three objectives:

- improve the capability of countries to control ASF using international standards and best practices;
- establish an effective coordination and cooperation framework; and
- facilitate business continuity ensuring safe production and trade to protect food systems.

It identifies key success factors: a disease intelligence framework; effective risk communication; operational and technical capability; and sustainable resources.

The priority areas for the ASF Working Group are to: support the regional Standing Group of Experts; monitor and evaluate the two-year operational plan; support risk communication; and strengthen coordination with public and private partners.

By working together, the global control of ASF is feasible and will contribute to achieving the Sustainable Development Goals, notably Goals 1 (No Poverty), 2 (Zero Hunger) and 10 (Reducing Inequalities).

FAO presentation on tools

FAO presented the available tools and resources to control ASF and encouraged their use:

Evidence-based capacity assessment tools

- Surveillance Evaluation Tool (SET) gives an initial assessment of a country's surveillance system prior to the implementation of projects to improve national veterinary surveillance capacities. The outcomes of the assessments and recommendations for progressive improvements have been incorporated into Ministry of Agriculture strategic documents. http://www.fao.org/ag/againfo/programmes/en/empres/tools_SET.html
- Epidemiology Mapping Tool (EMT) has directly informed the implementation of field epidemiology training programmes to improve the capacities of the veterinary services workforce to address disease surveillance, response and control.
- Lab Mapping Tool (LMT) has been rolled out in many countries to evaluate the capacities of specific veterinary laboratories and develop a progressive pathway to improve these facilities. Staff from veterinary diagnostic laboratories who are trained in using LMT are able to use the tool on their own, independently of FAO's involvement, to further improve their disease diagnostic capacities. http://www.fao.org/ag/againfo/programmes/en/empres/news_130514.html

Operational tools

- These tools include the Global Animal Disease Information System (EMPRES-i) and real-time disease reporting application Event Mobile Application (EMA-i). EMPRES-i is a global information system designed to facilitate sharing and analysis of their country, regional and global disease information. The EMPRES-i database can be used by countries for storage and analysis of own disease data and can have various levels of user access. EMA-i is a mobile-based app for veterinary services (central and field levels) to facilitate quality and real-time reporting of animal diseases from the field using smartphones. EMA-i data are safely stored in the EMPRES-i country interface. http://empres-i.fao.org and http://www.fao.org/3/ca7122en/CA7122EN.pdf
- Market Profiling Application (MPA) is an online, dynamic, real-time application to systematically collect, display and analyse epidemiologically relevant market data to support practical decision-making, early warning and early response. http://www.fao.org/publications/card/es/c/CA6132EN/ https://sites.google.com/view/avcma-toolset/mobility-patterns/border-control#h.7qkh7iifelyy
- Progressive Management Pathway (PMP) helps improve biosecurity in the pig sector for safe and sustained farming and risk reduction for both small-scale and commercial farming. The objectives of the PMP are to: engage public and private stakeholders in pig production in the governance and implementation of a National Biosecurity Action Plan; improve awareness and engagement of farmers and other pig/pork value chain stakeholders on the role of biosecurity in sustainable animal health

management; promote the implementation of biosecurity measures in different pig production systems; and develop capacity for monitoring the level of implementation and impact of biosecurity measures in different pig production systems.

Capacity development programmes

- National, cross-border, sub-regional and regional workshops on ASF epidemiology, risk-based surveillance, laboratory diagnostics, outbreak management, biosecurity practices in pig production, wild boar hunting, and across pig/pork value chains. http://www.fao.org/europe/events/detail-events/en/c/1180547/ http://www.fao.org/asiapacific/events/detail-events/en/c/1678/

Online training

- Four-week online ASF preparedness training course tailored to regional needs; offered in Europe (English and Serbian), Latin America and the Caribbean (English and Spanish) and Asia (English). http://www.fao.org/news/countries-good-practices/article/en/c/1382728/

Emergency preparedness and response

- Emergency Management Centre (EMC-AH), where ASF experts conduct emergency preparedness and alert missions. http://www.fao.org/emergencies/how-we-work/prepare-and-respond/emc-ah/en/
- Training of Good Emergency Management Practice (GEMP) http://www.fao.org/ag/againfo/programmes/en/empres/news_110618.html

Awareness and communication

FAO coordinates communication activities with the OIE at global and regional levels. In Southeast Asia, OIE Regional Representation for Asia and the Pacific and FAO Regional Office for Asia and the Pacific (RAP) have worked together to identify and target relevant stakeholders. While the OIE has focused on high-level stakeholders such as travelers and transportation authorities (e.g. the International Air Transport Association), FAO RAP has engaged in communication at field level with the aim of spreading biosecurity messages.

In an effort to improve the capacity of countries to promptly react to fast-moving transboundary animal diseases, FAO Regional Office for Europe and Central Asia has developed a series of awareness materials (leaflets, posters and videos) in different languages on priority diseases of the region. The leaflets and posters have been developed in a fully editable format (PowerPoint) that allows veterinary services and other institutions to quickly adapt, translate, add logos, change pictures, and make other adjustments when faced with an animal health emergency. The materials are available online in English and other languages of the region. Additional languages and formats will be uploaded as they become available. http://www.fao.org/europe/resources/transboundary-animal-diseases-leaflets/en/

The animation ''Biosecurity is key to stop African swine fever - Be a champion farmer!'' has been developed by FAO RAP and was released in 2020, translated into multiple languages and disseminated throughout the Asia and Pacific region. https://www.youtube.com/watch?v=XdKRY1Hf9hA&t=1s

Technical sessions

The technical sessions consisted of the six topics below. They were followed up by question-and-answer sessions.

- Regional strategies
- ASF virus characteristics and epidemiology: challenges for control and risk assessment and their implications for ASF control
- Biosecurity management of pig production: transformation of the sector
- ASF control and impact on wild pigs and biodiversity
- Vaccines and vaccination
- Diagnostics and disinfectants

The agenda for the webinar can be found in Annex 1. A summary of the question-and-answer sessions can be found in Annex 2.

The presentations are available at the event page http://www.gf-tads.org/events/events-detail/en/c/1152886/.

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Call for action

ASF is a complex disease that survives in pork products and persists in the environment for long periods, making control and eradication very difficult. Cases in wild boar are also a concern not only for their potential implications on disease transmission, but also for biodiversity and wildlife management.

Global control of ASF cannot be achieved by one sector or one country alone. Through a coordinated effort, all actors in the pig production chain joining the Global Control of ASF GF-TADs Initiative can help to:

- protect the livelihoods of vulnerable communities;
- safeguard animal health and welfare;
- contribute to stabilizing the pig production sector as well as meat and feed prices in regional and international trade and thus contribute to food security; and
- ensure that people have access to safe and nutritious food to ensure a healthy life and promote well-being.

As part of the Global Control of ASF GF-TADs Initiative, FAO and the OIE call on Members and partners to:

- carry out national risk analysis and reinforce risk management, including contingency planning, prevention, early detection, rapid response, and compensation policies to support industry recovery;
- maintain a high level of awareness on ASF risk mitigation among farmers, veterinarians, butchers, hunters, input suppliers and other value chain stakeholders;
- foster and support the implementation of good biosecurity practices, which are key to preventing further spread of ASF;
- reinforce and maintain border inspections for prevention of disease spread between countries through illegal practices such as the smuggling of pork, pork products and live animals during travel and migration;
- finalize research, development and validation of potential vaccines against ASF as well as the related vaccination strategies;
- support the improvement of laboratory diagnostics and rapid screening tools for ASF;
- develop a holistic approach to ASF control in wildlife – taking into account wild, feral and domestic pigs;
- foster solidarity and cooperation between countries with varying levels of experience, resources and capacity for ASF prevention and control; and
- foster public–private partnership for investment in ASF risk mitigation and management.

@Ian Dacre

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Annexes

ANNEX 1

Webinar agenda

EUROPE AND AFRICA (GMT+1)

DAY 1	26 October 2020	
Time	**Topics**	**Speakers**
10:00-10:10	**Welcome**	
	Opening addresses	*QU Dongyu, FAO Director-General and Monique Eloit, OIE Director-General*
10:10-10:40	**Setting the scene**	*Chair: Hendrik Jan Ormel, FAO*
	GF-TADs Global Control of African swine fever. A GF-TADs initiative GF-TADs presentation on ASF global situation and response	*Gregorio Torres, OIE* *Andriy Rozstalnyy, FAO*
10:40 - 11:40	**Session 1: Regional strategies**	*Chair: Hendrik Jan Ormel, FAO*
10:40 - 10:55	Regional control strategy for Africa	*Ahmed El-Sawalhy, Director-General of the African Union Inter-African Bureau for Animal Resources (AU-IBAR)*
10:55 - 11:10	Regional control strategy for the European Union	*Bernard Van-Goethem, Director-General, Crisis preparedness in food, animals and plants, European Commission, and President of the GF-TADs Europe and Standing Group of Experts on African Swine Fever (SGE ASF)*
11:10 - 11:25	Lessons learned and regional approaches for ASF control in Asia	*Norio Kumagai, OIE Delegate for Japan, President of GF-TADs Regional Steering Committee (RSC) for Asia and the Pacific and representative of SGE ASF*
11:25 - 11:40	Regional efforts in the Americas to prevent ASF introduction	*Jaspinder Komal, Chief Veterinary Officer (CVO) Canada, Canadian Food Inspection Agency and the President of the GF-TADs Americas and SGE ASF*
BREAK		
13:10 - 14:10	**Session 2: ASF virus characteristics and epidemiology: challenges for control and risk assessment and their implications for ASF control**	*Chair: Alexandre Fediaevsky, OIE*
13:10 - 13:30	ASF virus resistance and epidemiological features: challenges for control	*Klaus Depner, Friedrich-Loeffler-Institute, Germany*
13:30 - 13:50	Risk assessment in the European Union	*Sophie Dhollander, the European Food Safety Authority (EFSA), Italy*
13:50 - 14:10	ASF in the smallholder pig value chain: a human dimension approach	*Erika Chenais, National Veterinary Institute, Sweden*
14:10 - 14:50	**Session 3: Biosecurity management of pig production: transformation of sector**	*Chair: Alexandre Fediaevsky, OIE*
14:10 - 14:30	Adaptation of the biosecurity system in China	*Li Xiaowen, New Hope, China*
14:30 - 14:50	How small-scale low-biosecurity sector could be transformed into a more biosecure-sustained system	*Sharon Tsigadi, Farmers' Choice, Kenya*

EUROPE AND AFRICA (GMT+1)

DAY 2	27 October 2020	
Time	**Topics**	**Speakers**
10:00 - 10:45	**Session 4: ASF control and impact on wild pigs and biodiversity**	*Chair: Alexandre Fediaevsky, OIE*
10:00 - 10:15	ASF control in wild boars – lessons learned from the European Union	*Vittorio Guberti, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy*
10:15 - 10:30	ASF control in wild boars in Belgium	*Annick Linden, University of Liège, Belgium*
10:30 - 10:45	Challenges to wildlife management and conservation due to spread of ASF	*Sergei Khomenko, FAO Disease Ecology Expert*
10:45 - 11:25	**Session 5: Vaccines and vaccination**	*Chair: Alexandre Fediaevsky, OIE*
10:45 - 11:05	The challenge of ASF vaccine development	*Manuel Borca, Plum Island Animal Diseases Center, United States of America*
11:05 - 11:25	Vaccination strategy in different production systems and epidemiological situations	*Jose Manuel Sanchez-Vizcaino, Universidad Complutense de Madrid, Spain and European Union Consortium – VACDIVA*
BREAK		
13:00 - 13:40	**Session 6: Diagnostics and disinfectants**	*Chair: Hendrik Jan Ormel, FAO*
13:00 - 13:20	ASF laboratory diagnostics and rapid tests: practices, lessons learned and perspectives	*Sandra Blome, Friedrich-Loeffler-Institute, Germany*
13:20 - 13:40	Disinfectants against ASF virus: efficacy evaluation	*Lindsay Gabbert, Plum Island Animal Diseases Center, United States of America*
	Call for action	
13:40 - 14:00	Closing statement	*Keith Sumption, FAO, Chief Veterinary Officer* *Jean-Philippe Dop, OIE, Deputy Director-General*

DAY 3	30 October 2020	
Time	**Topics**	**Speakers**
09:00 - 10:00	Question-and-answer session: discussion and follow-up	*Experts and participants*
BREAK		
11:30 - 13:00	Question-and-answer session: discussion and follow-up	*Experts and participants*

ASIA AND PACIFIC (GMT+1)

DAY 1	28 October 2020	
Time	**Topics**	**Speakers**
07:00 - 07:10	**Welcome**	
	Opening addresses	*QU Dongyu, FAO Director-General and Monique Eloit, OIE Director-General*
07:10 - 07:40	**Setting the scene**	*Chair: Caitlin Holley, OIE*
	GF-TADs Global Control of African swine fever. A GF-TADs initiative GF-TADs presentation on ASF global situation and response	*Gregorio Torres, OIE* *Andriy Rozstalnyy, FAO*
07:40 - 08:40	**Session 1: Regional strategies**	*Chair: Caitlin Holley, OIE*
07:40 - 07:55	Regional control strategy for Africa	*Ahmed El-Sawalhy, Director-General of the AU-IBAR*
07:55 - 08:10	Regional control strategy for the European Union	*Bernard Van-Goethem, Director-General, Crisis preparedness in food, animals and plants, European Commission, and President of the GF-TADs Europe and SGE ASF*
08:10 - 08:25	Lessons learned and regional approaches for ASF control in Asia	*Norio Kumagai, OIE Delegate for Japan, President of GF-TADs RSC for Asia and the Pacific and representative of SGE ASF*
08:25 - 08:40	Regional efforts in the Americas to prevent ASF introduction	*Jaspinder Komal, CVO Canada, Canadian Food Inspection Agency and President of the GF-TADs Americas and SGE ASF*
BREAK		
10:10 - 11:10	**Session 2: ASF virus characteristics and epidemiology: challenges for control and risk assessment and their implications for ASF control**	*Chair: Katinka DeBalogh, FAO*
10:10 - 10:30	ASF virus resistance and epidemiological features: challenges for control	*Klaus Depner, Friedrich-Loeffler-Institute, Germany*
10:30 - 10:50	Risk assessment in the European Union	*Sophie Dhollander, EFSA, Italy*
10:50 - 11:10	ASF in the smallholder pig value chain: a human dimension approach	*Erika Chenais, National Veterinary Institute, Sweden*
11:10 - 11:50	**Session 3: Biosecurity management of pig production: transformation of sector**	*Chair: Katinka DeBalogh, FAO*
11:10 - 11:30	Adaptation of the biosecurity system in China	*Li Xiaowen, New Hope, China*
11:30 - 11:50	How small-scale low-biosecurity sector could be transformed into a more biosecure-sustained system	*Sharon Tsigadi, Farmers' Choice, Kenya*

DAY 2	29 October 2020
Time	**Topics**
07:00 - 07:45	**Session 4: ASF control and impact on wild pigs and biodiversity**
07:00 - 07:15	ASF control in wild boars - lessons learned from the European Union
07:15 - 07:30	ASF control in wild boars in Belgium
07:30 - 07:45	Challenges to wildlife management and conservation due to spread of ASF
07:45 - 08:25	**Session 5: Vaccines and vaccination**
07:45 - 08:05	The challenge of ASF vaccine development
08:05 - 08:25	Vaccination strategy in different production systems and epidemiological situations
BREAK	
10:00 - 11:00	**Session 6: Diagnostics and disinfectants**
10:00 - 10:20	ASF laboratory diagnostics and rapid tests: practices, lessons learned and perspectives
10:20 - 10:40	Disinfectants against ASF virus: efficacy evaluation
	Call for action
10:40 - 11:00	Closing statement

DAY 3	30 October 2020	
Time	**Topics**	**Speakers**
09:00 - 10:00	Question-and-answer session: discussion and follow-up	*Experts and participants*
BREAK		
11:30 - 13:00	Question-and-answer session: discussion and follow-up	*Experts and participants*

AMERICAS (GMT+1)

DAY 1	28 October 2020	
Time	**Topics**	**Speakers**
15:00 - 15:10	**Welcome**	
	Opening addresses	*QU Dongyu, FAO Director-General, and Monique Eloit, OIE Director-General*
15:10 - 15:40	**Setting the scene**	*Chair: Luis Barcos, OIE*
	GF-TADs Global Control of African swine fever. A GF-TADs initiative GF-TADs presentation on ASF global situation and response	*Gregorio Torres, OIE* *Andriy Rozstalnyy, FAO*
15:40 - 16:40	**Session 1: Regional strategies**	*Chair: Luis Barcos, OIE*
15:40 - 15:55	Regional control strategy for Africa	*Ahmed El-Sawalhy, Director-General of the AU-IBAR*
15:55 - 16:10	Regional control strategy for the European Union	*Bernard Van-Goethem, Director-General, Crisis preparedness in food, animals and plants, European Commission, and President of the GF TADs Europe and SGE ASF*
16:10 - 16:25	Lessons learned and regional approaches for ASF control in Asia	*Norio Kumagai, OIE Delegate for Japan, President of GF TADs RSC for Asia and the Pacific and representative of SGE ASF*
16:25 - 16:40	Regional efforts in the Americas to prevent ASF introduction	*Jaspinder Komal, CVO Canada, Canadian Food Inspection Agency, and President of the GF TADs Americas and SGE ASF*
BREAK		
18:10 - 19:10	**Session 2: ASF virus characteristics and epidemiology: challenges for control and risk assessment and their implications for ASF control**	*Chair: Andres Gonzalez Serrano, FAO*
18:10 - 18:30	ASF virus resistance and epidemiological features: challenges for control	*Klaus Depner, Friedrich-Loeffler-Institute, Germany*
18:30 - 18:50	Risk assessment in the European Union	*Sophie Dhollander, EFSA, Italy*
18:50 - 19:10	ASF in the smallholder pig value chain: a human dimension approach	*Erika Chenais, National Veterinary Institute, Sweden*
19:10 - 19:50	**Session 3: Biosecurity management of pig production: transformation of sector**	*Chair: Andres Gonzalez Serrano, FAO*
19:10 - 19:30	Adaptation of the biosecurity system in China	*Li Xiaowen, New Hope, China*
19:30 - 19:50	How small-scale low-biosecurity sector could be transformed into a more biosecure-sustained system	*Sharon Tsigadi, Farmers' Choice, Kenya*

DAY 2	29 October 2020	
Time	**Topics**	**Speakers**
15:00 - 15:45	**Session 4: ASF control and impact on wild pigs and biodiversity**	*Chair: Andres Gonzalez Serrano, FAO*
15:00 - 15:15	ASF control in wild boars - lessons learned from the European Union	*Vittorio Guberti, Istituto Superiore per la Protezione e la Ricerca Ambientale, Italy*
15:15 - 15:30	ASF control in wild boars in Belgium	*Annick Linden, University of Liège, Belgium*
15:30 - 15:45	Challenges to wildlife management and conservation due to spread of ASF	*Sergei Khomenko, FAO*
15:45 - 16:25	**Session 5: Vaccine and vaccination**	*Chair: Andres Gonzalez Serrano, FAO*
15:45 - 16:05	The challenge of ASF vaccine development	*Manuel Borca, Plum Island Animal Diseases Center, United States of America*
16:05 - 16:25	Vaccination strategy in different production systems and epidemiological situations	*Jose Manuel Sanchez-Vizcaino, Universidad Complutense de Madrid, Spain and European Union Consortium – VACDIVA*
BREAK		
18:00 - 19:00	**Session 6: Diagnostics and disinfectants**	*Chair: Luis Barcos, OIE*
18:00 - 18:20	ASF laboratory diagnostics and rapid tests: practices, lessons learned and perspectives	*Sandra Blome, Friedrich-Loeffler-Institute, Germany*
18:20 - 18:40	Disinfectants against ASF virus: efficacy evaluation	*Lindsay Gabbert, Plum Island Animal Diseases Center, United States of America*
	Call for action	
18:40 - 19:00	Closing statement	*Keith Sumption, FAO, Chief Veterinary Officer* *Jean-Philippe Dop OIE, Deputy Director-General*

DAY 3	30 October 2020	
Time GMT+1	**Topics**	**Speakers**
15:00 - 16:00	Question-and-answer session: discussion and follow-up	*Experts and participants*
BREAK		
16:30-18:00	Question-and-answer session: discussion and follow-up	*Experts and participants*

ANNEX 2

Question-and-answer sessions

_____ SESSION 1
REGIONAL STRATEGIES

Question 1: For how long is trade restricted from areas that have reported disease after they have resolved the spread of disease situation, say, within the country or state?

The European Union provides clear guidance on when certain restrictions can be lifted based on European Union legislation and guidance documents that reflect the OIE *Terrestrial Code*: 12 months without ASF cases as a baseline, which can be reduced following specific criteria and principles highlighted in working documents on ASF regionalization:
https://ec.europa.eu/food/sites/food/files/animals/docs/ad_control-measures_asf_wrk-doc-sante-2015-7112.pdf

Question 2: Will a new white zone be developed in the area recently infected in Germany?

For details, this question could be answered by the German competent authority. You can consult the latest presentation by Germany (the Standing Committee on Plants, Animals, Food and Feed, 20 October 2020) on the measures in the infected area (including domestic pig sector, slides 11–12) and the presentation of the European Union Veterinary Emergency Management Team, which provides certain recommendations to the German competent authority:
https://ec.europa.eu/food/sites/food/files/animals/docs/reg-com_ahw_20201020_pres_asf_deu.pdf
https://ec.europa.eu/food/sites/food/files/animals/docs/reg-com_ahw_20201020_pres_asf_deu-euvet.pdf

The European Union Veterinary Emergency Management Team deployed two experts from Belgium and Italy to Germany at the end of September. The white zone is recommended based on the positive experience in Belgium, which eradicated the disease from its territory. These measures should not be applied as a standalone approach, but in combination with other measures in the framework of a control/eradication strategy. Such measures could include: targeted hunting of wild boar around the infected area; ban on artificial feeding of wild boar; limiting access to the infected forest and area to the general public in order to avoid possible contamination; trapping of the wild boars; and planned active search of wild boar carcasses and their proper safe removal from the field.

Question 3: Countries are becoming increasingly affected by ASF in Africa, and current control efforts against ASF may not appear to be sufficiently effective/visible. What should be done, considering the results of ASF epidemiology studies and experience in applying ASF control measures in Africa and worldwide?

Indeed, there is an increasing number of countries reporting ASF. Controlling the movement of all animals and not just pigs is a problem that contributes to the spread and persistence of the virus. Compensation schemes are not in place. The example of the ASF outbreak in Chad in 2011 and the stamping-out policy has been applied; nevertheless, to date farmers have been not compensated. This is a key problem. There is a need to review the regional control strategy in order to place emphasis on the regional approach to harmonize legislation, with the support of the regional economic communities and the ongoing discussions between member countries and regional offices.

Question 4: Is there any successful compartmentalization free from ASF of pig farms in Asia and Pacific region in an endemic country? How can the status of compartmentalization be sustained as a quality guarantee that the farm is free from ASF?

Compartmentalization is one of the topics to be discussed at the forthcoming meeting of the Standing Group of Experts (SGE) ASF meeting in our region. So far, we do not have any officially recognized compartment in Asia and Pacific region. But this is one option to ensure sustainable pig production, considering the ASF epidemiological situation in Asia. The OIE is developing guidelines on applying compartmentalization for ASF, which might help develop the compartmentalization system in our region. We will have technical discussions with SGE ASF, including on challenges related to its practical application.

Question 5: Could you share experiences/lessons learned regarding how ASF was introduced and controlled during outbreaks in the late 1970s in Cuba, Haiti and Dominican Republic as well as in Brazil?

ASF emerged in these countries most likely due to increased tourism and tourists who brought food which was fed to pigs. In the case of Brazil, there was the possibility of introduction due to the use of kitchen waste from the ships that were docking on the sea and that was also fed to pigs.

The affected countries took very rigorous actions dedicated to stamping out, stopping swill-feeding, and controlling biosecurity of small-scale farming; they also practiced rigorous surveillance, detection and then eradication of the disease. Some of the strategies worked very well and all these countries were able to eradicate infection and prevent further spread. Efforts continue to keep countries free from ASF.

The lessons learned from these control strategies applied in the 1970s and 1980s are being incorporated into the current strategy. The lesson learned with regard to ASF detection is to impose restrictions on animals and humans until the situation is under control. These include: the application of zoning as a method to contain the disease and manage it; the stamping out and disposal of carcasses to prevent transmission from carcasses to domestic or wild pigs; surveillance and biosecurity since diseases can be present in both wild and domestic pigs; attention to personnel working on the pig farms from other countries, especially in North America, to prevent bringing meat from their countries; and regulatory control to ensure that waste from cargo ships is not fed to domestic or wild pigs.

SESSION 2
ASF VIRUS CHARACTERISTICS AND EPIDEMIOLOGY: CHALLENGES FOR CONTROL AND RISK ASSESSMENT AND THEIR IMPLICATIONS FOR ASF CONTROL

Question 1: Is it feasible to sustain safe domestic pig production in the situation when ASF is reported or endemic in the wild boar population?

Yes, it is possible to avoid ASF in domestic pigs if biosecurity measures are applied to be able to prevent its introduction from wild boars. ASF is a human-driven disease and if we educate people and control human behaviour to ensure good biosecurity practices and compliance, then we should be able to prevent disease from forest to stable.

Question 2: What is the role of people (anthropogenic factor) in ASF epidemiology/transmission for domestic and wild pigs?

Humans are responsible for transmitting and transporting the virus from A to B, from forest to stable, from country to country. ASF epidemiology is not just the biological interaction of virus and host but a social problem that requires a more holistic approach to address it.

Question 3: What about the tenacity of ASF virus on/in feed ingredients, e.g. grains such as corn or barley?

EFSA carried out the risk assessment of African swine fever and the ability of products or materials to present a risk to transmit ASF virus, e.g. arable crops, hay and straw as well as sawdust, wood chips and similar materials. The Working Group's extensive literature review after processing ASF for 30 days, along with studies of Fisher, all found that grains/cereals subject to two hours of drying followed by incubation a temperature between 40 and 75 degrees for one hour are ASFV negative. We are trying to understand the role of processing on ASF survival.

Question 4: Are there any updates or preparedness activities regarding the presence of vector ticks in newly infected territories?

Surveillance activities were carried out in currently affected areas in the European Union, and no evidence was found of *Ornithodoros erraticus* ticks' involvement in ASF transmission. A recent study in Romania aimed to identify ticks in backyard pig farms has not uncovered any ticks. EFSA has been developing research protocols for surveillance and is encouraging studies to be conducted in ASF-infected areas characterized by a suitable habitat for ticks.

For the distribution of the ticks in terms of preparedness, biosecurity is the key, especially in small, old buildings (e.g. stables) where ticks can hide. There is no clear control measure for ticks; therefore, prevention is crucial. The experts' elicitation conducted on the role of ticks in France is available.

Question 5: What are the considerations to incentivize small-scale farmers in endemic countries to not sell/move known ASF positive pork products?

There are many factors influencing the behaviour of farmers and other stakeholders. Poverty is one example. When pig keepers are poor and their pigs are affected by ASF, they need the money from pig-raising to pay for school fees, hospital fees and other needs. Therefore, the question is how to minimize the risks. One such means could be a health declaration of the pork to inform buyers

whether the pork comes from an infected pig. In such cases the buyers would need to eat all of it – as long as this pork is consumed fully and not used in swill for pig-feeding, it will not transmit the disease. Another option to minimize risks is training in home-based slaughtering because in most cases it is carried out with no biosecurity practices.

Question 6: There are studies in Africa (Madagascar, Mozambique and South Africa) aiming to understand the role of bush pigs in transmission of ASF. Would looking at vaccination for bush pigs depend on confirming an important role they might play?

Bush pigs have rarely been shown to carry the virus and do not seem to play an important role in the epidemiology in Africa. Even in contexts where both soft ticks and the vertebrate host (warthogs) are present, it is the domestic pig cycle that is driving transmission in Africa. The rare spillover events from the sylvatic to the tick-domestic and to the domestic cycle do occur, but that is not driving the transmission.

Question 7: What would be the options for disposing of infected carcasses?

The disposal of infected carcasses should be planned and carried out to make sure that these carcasses are completely destroyed and do not pose a threat of ASF. The best way is the rendering at the rendering plant. When it is not possible, the carcass management options to be considered include burial, burning and composting. However, the selection of methods also depends on the season and on the condition of soil, e.g. rocky or wetland. In addition, environmental aspects should be considered. Burning or burying carcasses is not always permitted.

We need to select options that are feasible in the local context and environment. The disposal methods will be different if there is a carcass of one animal or if there are 10 000 carcasses of pigs to be disposed of. In addition, carcass decomposition generates gas in their stomachs and they have to be punched before burial. Several guidelines are available to provide the technical details for proper planning and implementation of carcass disposal.

Question 8: What about the survival of the ASF virus in feeding and related risks for transmission?

Some studies on the survival of the virus in the feed have been conducted in the United States of America (for example, Nidewerder *et al.*, 2019 https://wwwnc.cdc.gov/eid/article/25/5/18-1495_article), where they check how long different types of feed contaminated by ASF could be infectious. The tenacity of the virus in the blood should be taken as a proxy for the contamination of the feed; the contaminated feed substrate is secondary to blood contamination.

Question 9: Have there been any studies on how long ASF virus survives in 3-, 6- or 12-foot manure pits?

The most recent studies on the survival of African swine fever virus in excretions from pigs experimentally infected with ASF virus have demonstrated the survival of the virus up to five days in faeces or urine using under-shield temperature conditions (for example, K. Davis *et al.*, 2015 https://www.researchgate.net/publication/279306218_Survival_of_African_Swine_Fever_Virus_in_Excretions_from_Pigs_Experimentally_Infected_with_the_Georgia_20071_Isolate). Under higher temperatures or by adding disinfectants, the survival time will be decreased.

Furthermore, there is a study on chemical treatment and heat treatment for the inactivation of ASF virus in pig slurry (Turner, C. & Williams, S.M. 1999 https://pubmed.ncbi.nlm.nih.gov/10432596/). In slurry from one source, ASFV was inactivated at 65 degrees C within one minute, whereas SVDV required at least two minutes at 65 degrees C. However, it was found that thermal inactivation depended on the characteristics of the slurry used. The addition of 1 percent by weight/volume (w/v) of NaOH or $Ca(OH)_2$ caused the inactivation of ASFV within 150 seconds at 4 degrees C; 0.5 percent (w/v) NaOH or $Ca(OH)_2$ required 30 minutes for inactivation.

SESSION 3 BIOSECURITY MANAGEMENT OF PIG PRODUCTION: TRANSFORMATION OF SECTOR

Question 1: Regarding biosecurity procedures including testing of the personnel at level 47 percent, were they farm workers or visitors or other people?

Anybody coming into our facilities, including pig barns as well as office areas outside of the sites, has to be swab-sampled. Every day, we sample everybody – all the employees, the drivers, and the visitors – and we take samples from clothing, shoes, etc. Whenever they come to work or during other possibilities of contacting pigs, we do swabs. Often we pool samples from three or five people into one sample to test by qPCR. In half a year, with close to 200 000 analyses, 47 percent were positive samples from hands, hair, clothing, shoes, swabs from their mobile phone.

Question 2: Regarding water as a possible risk factor for ASF transmission and the fact that both presentations on biosecurity management from the private sector mentioned water as a possible risk, could you please give us some insights on this risk factor with regard to smallholders?

Dealing with smallholder pig farmers, we found that the quality of water available is already an issue. Since households do not have clean water for their own use, the quality for the animals will not be a priority for them. In situations where we do not have piped water, low-quality water is used, e.g. surface water, dug wells. Water is quite an important source of infection and route of transmission. Therefore, the studies on how to manage risks coming from water are important.

The most recent studies conducted in the United States of America, at Kansas State University, confirmed that a very low dose of virus in the water could cause infection in pigs. In our case, with the open source, you would have contamination of faecal matter or urine into the water that the animals drink, and they would become infected.

New Hope Liuhe Group, a large pork producer, has been testing most of our water sources at our major swine production systems, but for about two years we have not been able to find many definite positives; we found only one suspicious positive case – when we resampled the same water tank supply, we found the sample to be negative. However, at the infected small-contract finishing farms during the early days of ASF outbreaks where we culled and disposed of pigs due to ASF, we did find positive samples in water on ground surfaces around those farms. We experienced several cases during rainy days and the samples of the runoff water were ASFV DNA positive. But this is no longer common.

Question 3: How can farm biosecurity be improved in a subsistence farming setting?

Creating awareness is key for improving biosecurity as there is a lack of knowledge about how ASF can be prevented. By creating awareness, we are changing the mindset, keeping in mind that smallholder farmers are not looking at pig production as their main revenue generation activity. Therefore, by demonstrating that they can actually make a profit from pig-raising, we will be able to shift the mindset and introduce basic biosecurity measures – for example, having different boots for the farms, wearing overalls, using fencing and other measures.

The company holds monthly meetings with our families at our facility. We have a training room at the slaughterhouse where we hold the meetings. The company also has an extension team that visits the farmers. When a farmer brings in animals for slaughter, we have a cleaning and disinfection point at the off-loading area. During the cleaning and disinfection, one of our team members explains the various aspects of biosecurity. We also give a bonus for every carcass coming from animals with no animal health issues and graded as a higher quality.

Question 4: Feeding is another important part of biosecurity. What is done to prevent transmission via feed?

The company sells feed to contracting farmers at subsidized cost, comparing the price on the market, to encourage farmers to use commercial feeds for their pigs. In addition, the company helps farmers to control any other diseases by giving advice on the vaccination schedules, ensuring the availability of vaccines, and providing disinfectants at a reasonable price. Our extension team visits the farmers because we find that the face-to-face engagement is very important. In essence, we offer contracting farmers the whole package and at the same time educate them on preventing diseases.

Concerning testing the feed used for our company, we sample almost all batches of feed ingredients coming to the feed mill and collect swabs of the storage units and every truck coming to feeding mills. We had a positive sample in the early days, and the percentage of positive swabs was also extremely low. Currently we have no issues.

Question 5: Did you came across any studies that considered the influence of farmer/producer organizations on compliance? They were very important for community response and action with respect to other diseases (e.g. avian influenza outbreaks). Has this been explored for ASF control?

There have been a lot of studies on the value chain as such, and these organizations play a role but the studies did not investigate their influence on community response and action regarding ASF. We study how these organizations contribute to ownership over disease control issues and how we can influence peer pressure from these organizations on farmers, for example to apply biosecurity measures.

SESSION 4
ASF CONTROL AND IMPACT ON WILD PIGS AND BIODIVERSITY

Question 1: What strategy is needed for controlling and eradicating ASF among the wild boar population in countries where the virus is widely distributed in large areas and building a fence is problematic?

By now the eradication of ASF from large wild boar-infected areas has been attempted through soft hunting, targeting gilt and adult females in order to reduce the number of newborns, together with the removal of carcasses. However, this strategy has not worked properly and, indeed, from the areas where the strategy has been applied the virus is still spreading in and out. A possible alternative could be to stop any hunting and strongly limit access to the forests. However, there are doubts regarding the feasibility and sustainability of such an alternative strategy since – in the European Union, for example – there are hundreds of thousands of square kilometres of infected forests inhabited by thousands and thousands of wild boars. The current strategy shows that a long time (years) is needed to reach eradication; at the same time, the risk of the virus spreading into free areas is a daily challenge for any free area/country. It is worth underlining that the European Union eradication strategy was changed in both Czechia and Belgium and was successful; however, in both the countries ASF was focally introduced and in a limited area that was disconnected from any other infected area.

Another issue is illegal hunting. In some infected countries, a cap of 20 percent of illegal hunting is officially considered, which means that infected animals are brought outside the forest without any control and the meat is sold without any tracing. Another critical point is that in some parts of Europe a large number of wild boars are still dressed at home, where it is common to breed domestic pigs. These practices are highly risky and need to be better managed.

Question 2: To what extent are PCR-positive tested bones still considered to contain the live virus, sufficient to infect live wild boar?

The six bone samples in January of this year were positive, but the viral load was extremely low. All the samples were sent to the reference laboratory in Spain for analysis and viral isolation in cultured cells. The gene-testing was positive, but the viral isolation was negative. Therefore, the bones were not infectious.

Question 3: Which of these methods – trapping, hunting with or without dogs, fencing – is more effective for preventing the movement of wild boar in Europe?

We are supposed to perform some interventions regarding the population of wild boar and we want to avoid the effect of mobility. If we are to do something about the population and want the animals to be minimally disturbed, fencing would be the best option. However, in my presentation I highlighted the fact that large-scale fencing is also a very problematic approach. On a small spatial scale, fencing is effectively applied to control the disease. The next option, which is the least invasive in terms of mobility, is trapping. This method attracts animals to traps and then euthanasia would need to follow if the goal is to reduce the population. Regarding hunting, in the temperate climates of Europe, the hunters use “soft hunting” – hunting from towers – as the main approach. The most disturbing would be the driven hunts with dogs and a lot of people, which has been shown to dramatically increase the mobility of wild boar to a point that they can cross the Bosphorus, the sea or the Danube.

Question 4: What kind of compensation was implemented for pig owners in the affected area in Belgium? Do you have an estimated cost for the control of ASF in wild boar in Belgium?

At the beginning of the outbreak, in October 2018, all of the domestic pigs were killed. Fortunately it was not a zone with a high density of pigs. Approximately 5 000 pigs were culled and this affected 58 breeders. The breeders received federal and regional compensation; in total, the regional compensation was EUR 1 million for two years for big breeders.

For the estimated costs, if we consider all the costs related to fences – all the material for installation, equipment and materials for disinfection, the installation of carcass collection centres, etc. – the total cost is about EUR 10 million. The construction of the fences it is approximately EUR 15 per metre.

There was also compensation for forest operators and hunters who built traps on the periphery of the infected zone, and compensation for game-processing plants and the tourism association. The total budget for compensation for the two-year period was EUR 17 million. We also expected European Union assistance of EUR 6 million.

Question 5: Can you share the best experiences on control of ASF among wild boars and the domestic interface in the European Union?

The most important point is to detect the ASF virus in wildlife early; early detection means the management of a small infected area, which will increase the probability of successful eradication. With delayed detection, huge areas will be infected and will not be able to be managed with the strategy currently being applied. Large infected areas of wild boar means an increased risk of virus transmission from wild boar to domestic pig and vice versa.

In the control of ASF among wild boar, fences are very useful but limited in both space and time. Fences are useful to reduce the speed of the epidemic wave, which otherwise is almost impossible to be blocked. However, sooner or later the virus will ''jump'' the fence. The main aim of fences is to allow time to apply an appropriate wild boar population management outside the infected area in order to prevent the further spread of the virus. For this strategy to work, early detection is the key starting point.

Question 6: What is the best surveillance method in wild boar?

Statistically, you have 99.5 percent more probability to detect the virus in dead animals than in live shot/hunted wild boar. The lethality of the virus is very high, and the virus is faster in killing than any human activity. As a result, almost all the index cases of ASF in wild boar were detected in dead animals. In at-risk areas, it is necessary to test each dead wild boar, including those killed by vehicles. The main effort to achieve an efficient early detection is to convince people to report each wild boar found dead.

In the European Union, it has been estimated that an efficient passive surveillance should report a number of wild boar carcasses equal to 1 percent of the estimated live post-reproductive wild boar population.

SESSION 5
VACCINES AND VACCINATION

Question 1: The vaccines are clearly able to reduce clinical signs of disease. But what about their ability to reduce transmission of disease?

Three clinical trials were conducted on the performance of our different vaccine prototypes, two in wild boar and one in domestic pigs. In one study, we found that animals vaccinated showed that short duration of viremia post-challenge can shed the virus to two out of three contact animals. However, we don't have the analysis for the other trials yet, as they have only been recently completed.

Question 2: Do we know how long the vaccine virus persists in the animals?

We performed a large study with many animals. The experiment finished 45 days after vaccination and challenge when we sacrificed animals in order to study 16 target tissues. We evaluated the viremia of these 16 tissues by quantitative PCR and found that most of the tissues of the control animals showed the presence of virus with a low CT value, indicating high titers of virus. However, in the vaccinated animals, of the 16 tissues analysed we found a very high CT in only two tissue samples, indicating low amounts of virus. We therefore don't think that they were infected at that time.

Question 3: How do you think the vaccine would be used in practice, and what would be its main use: for emergency vaccination/responsive vaccination, routine prophylactic vaccination, or only used in endemic countries?

ASF is now affecting four continents and for the first time is present in more than 50 countries. The epidemiological scenarios are different. For example, they are not the same in China relative to what we observe in the European Union or in some parts of Africa. Each country needs to adopt a good control programme, a part of which could include vaccination. There is therefore no single formula applicable for all scenarios. Part of the research of the VACDIVA project is to incorporate system modelling control strategies with or without vaccination applied to different scenarios, to try to adopt a control programme based on the situation.

Question 4: Do you think there is any realistic prospect of the vaccine being used in ASF-free countries and in endemic countries?

We have many prototypes from different research groups, but there are still a lot of animal trials required to understand and prove many aspects of any potential ASF vaccines. Therefore, at the moment we will not recommend application of the vaccine in ASF-free countries. But in countries where ASF is endemic and losses and mortality are high, if we arrive at a safe vaccine, these countries will probably be interested in its use in different epidemiological scenarios.

Question 5: Regarding the studies on administration by a number of different routes – oral, intramuscular, intradermal – do you think that any particular route is showing more promise than the others?

Recently we conducted experiments incorporating the *intradermic route* of vaccination, which had not been tested before. The evaluation of this route of vaccine introduction is ongoing and we cannot provide data until we complete the trials and analysis.

Question 6: Have you conducted any other studies in non-target species in terms of the ability of the virus to spread and shed virus to species, other than the target species, the domestic pig?

This is a good point, but we have not studied it yet.

Question 7: What is the susceptibility of wild pigs and what are the prospects for breeding transgenic pigs that are resistant to ASF?

For many years, researchers have tried to understand why bush pigs (*Potamochoerus larvatus*) and warthogs (*Phacochoerus spp.*) do not have clinical signs or damaged tissues but are ASFV-infected. It is important to define two aspects that are very different: one is resistant animals and the other is tolerant animals. What has been proved in the past is that you can make tolerant animals that are infected by the disease but are not killed by ASFV. These tolerant animals, however, show low levels of virus persistence and can continue to spread the virus – for example via ticks. Today several genetic companies dealing with pig genetic resources are working more seriously on this aspect, but to date there are no conclusive results.

Question 8: There are a large number of genes that affect pathogenicity and therefore can be used for the development of attenuated vaccines. Do you have any particular opinion at this stage as to which genes you think are the most likely to lead to the development of a successful attenuated vaccine?

We can only talk about published references. In this regard there are probably five candidates for potential successful development. Colleagues in China have developed vaccine-based combination deletions – 7 of the multigene family (MGF) genes and CD2v deletion – and obtained results that are apparently very good, although we do not have any data on testing in field conditions. In our case we have a couple of research candidates with deletion of the UK gene, and another one with deletion of I177L.

We cannot directly compare vaccines from different labs as there are so many variables involved in the experiments, such as source of vaccines, route of inoculation, and importantly, the amount of virus used. It is therefore extremely difficult to compare published work with the aim of demonstrating which vaccine could be better than others.

Question 9: Currently, testing of potential vaccines very much relies on challenge studies, where their protectiveness is investigated against relevant field strains. Are there any in vitro correlates of protection?

Antibodies are clearly important in protection against ASF, but there is no direct correlation between antibody level and protection. Likewise, it has not been possible to identify antibodies that correlate with strain-specific or cross-strain immunity. It does not appear that antibody-mediated protection relies on virus neutralization alone but that antibodies also play a role alongside other arms of the immune response such as cell-mediated immunity, cytotoxicity, etc. Currently, therefore, demonstrating the efficacy of vaccines requires challenge studies in vivo, as in vitro correlates of protection have not yet been established.

The development of vaccines is currently constrained by the lack of reliable in vitro correlates of protection, requiring that protection must be demonstrated by challenge. Research into in vitro correlates of protection should therefore be a priority to accelerate and facilitate vaccine development.

SESSION 6
DIAGNOSTIC AND DISINFECTANTS

Question 1: For backyard farms the cost of PCR testing is a concern. To address this, would it be acceptable to pool together approximately 5-10 samples that came from pigs from two different barns in order to optimize PCR budgets?

The question on pooling of five samples is highly relevant and we tested this recently with the German samples and had no objections to the pooling of five samples. Of course, the quality of samples needs to be taken into account, as well as the epidemiological context. There is some experience from the European Union Reference Laboratory in Valdemos, Spain, where they demonstrated that if you pool more than five, there is a decrease in sensitivity.

Question 2: Is it wise to use PCR in testing processed food? Are the procedure and reagents the same as those used in testing blood samples or organs?

We are not really in favour of doing so because taking the right sample is already a problem. A negative result will not tell you much, and a positive result will only show that there was genome and the relevance. In addition, the ways of action or response after a positive detection of PCR result are quite different. However, we tried to test a lot of matrices. In the end, our PCR systems work for the matrix, and we did not see any major problems. If you look into the diagnostics of feed and food, you will see that they have specialized procedures, but also my routine procedures were able to detect the virus whenever I tried with contaminated food and feed.

Question 3: Lab-based diagnostics are challenging in developing countries due to distance from centralized labs. Are there any quick pen-side diagnostics available for ASF? Why can't point of testing be used in backyard farms?

Lateral flow assays, which work like pregnancy tests, are small immunity diffusion tests. The antibody detection is very good with these kinds of devices. These tests are more or less as sensitive as ELISA; therefore, antibody detection is not a problem.

As we have shown from recent animal trials, there are two different producers of antigen lateral flow devices and, in most cases, diseased animals will give a positive result. Nevertheless, in all of our experiments we had false negatives, even if they are strongly positive by PCR. Therefore, if only a single animal is tested, there is a high chance of an incorrect result. It is like flipping a coin.

If you are testing animals and they are all sick, the probability that you find at least one positive that defines the holding as positive is also quite high. So the sensitivity is at a moderate to rather low level. In certain circumstances, it is much better than nothing. However, we do not recommend it as a first line of defense if you have other choices, but if you have only this choice, it can help. It can also help in outbreak scenarios where you want to know the extent of the epidemic.

Question 4: What is the correlation between virus isolation in Vero cell line and in pig challenge test (bioassay)?

In our laboratory, for disinfectant efficacy testing, we utilize highly concentrated ASF isolate BA71V. This isolate is attenuated in swine and is adapted to grow in Vero cells. Unfortunately, since it is non-pathogenic in pigs, we are unable to directly compare in vitro virus isolation results with a swine bioassay. However, for any supernatants that are negative, we follow the gold standard and conduct three additional blind passages on Vero cells. This provides additional confidence that the negative results are actually due to inactivation of virus.

Question 5: Is the efficacy of any disinfectants affected in any way by ambient temperature?

The danger in working with liquid chemical disinfectants outside of ambient temperatures is their inability to maintain contact with surfaces for the recommended contact time. Maintaining that contact time is important. If temperatures are too warm, the disinfectant may evaporate, and if temperatures are too cold, they may freeze. Research has been conducted in the United States of America and Canada using different liquid chemicals (e.g. Virkon S) with the addition of antifreeze agents such as propylene glycol, and these tests have shown that disinfectants were still effective at lower temperatures.

GENERAL DISCUSSION

Question 1: How can we improve transparency in our region?

The European Union has a lot of experience with this issue and has been promoting the concept of transparent sharing of information in relation to ASF. Of course, there are some legal obligations imposed on our farmers, hunters and Member States, but at the same time we closely cooperate with them and have many training programmes – for example, Better Training for Safer Food. Certain elements of ASF control are cofunded from the European Union budget and nearly EUR 200 million have already been spent to fight the disease. The European Union stimulates this sharing of information, and at the regional level we actively promote such discussions in the framework of GF-TADs and the Standing Group of Experts. To date, we have had 15 meetings with our colleagues and neighbours from other countries.

We share a great deal of information with our trading partners on our website. European Union presentations, including monthly presentations and updates given by Member States in the Standing Committees, are available online. We share the information from the information notes with our trading partners to inform them about any changes to our regionalization. We hope that these initiatives to promote transparency on ASF can be undertaken in other regions as well.

Question 2: How can we ensure the prevention of ASF incursion to free areas, specifically in countries where veterinary services are weak?

The specific objective of the regional ASF control strategy for Africa is to prevent the introduction of ASF to non-infected countries, as indeed the capacity of veterinary services in most of countries in Africa is weak. Currently, with the support of other partners including FAO, the emphasis is on the capacity-building of veterinary services of Member States – in particular, strengthening epidemio-surveillance systems, outbreak investigation, and compliance with and application of biosecurity measures at farm level. Two countries have already benefited from capacity-building of border inspectors and quarantine officers on quarantine practices and procedures in order to be able to easily detect ASF and prevent the introduction of infected animals or contaminated goods.

For countries exporting pig and pork, it is important to promote the export of meat – pork and pork products – instead of trade in live animals. This is the case between Burkina Faso and Côte d'Ivoire.

Question 3: What is the consequence of using vaccines in domestic pigs that do not yet have official approval by the OIE?

There have been rumours about the use of vaccines in certain areas last year which have not been officially approved. If this is the case, the situation is illegal because the product has not been approved by the OIE and competent authority in charge of official registration of vaccines. Such vaccines should not be used because they can further confuse our understanding of the current clinical course and evolution of the disease.

Question 4: In extensive management systems in a resource-poor setting with very minimal or rare active surveillance, what could be a solution?

Based on experiences in Europe and Asia, where we have genotype II, mortality is very high and active surveillance does not work. Therefore, we need to test dead animals and put in place a good passive surveillance. It is the only real solution to find the virus in any environment, in any domestic pig sector – commercial and backyard farms.

Question 5: What would be the prevention and control measures in extensive management systems in a resource-poor setting?

The experiences of smallholders in some of the endemic countries proved that by applying very simple biosecurity measures it is possible to protect pigs in a completely infected village. These include avoiding swill-feeding, not allowing any visitors, vehicles or equipment from other farms, and cleaning and disinfection. We need to remember that the ASF virus does not have a high level of contagion.

It is important for the public sector to help small-scale pig owners to feed their animals. Backyard farmers often cannot afford to feed their animals with commercial feeds. The whole concept of backyard/subsistence farming is to convert swill or kitchen waste into protein. Nevertheless, it is important that farmers know how to reduce risk by not allowing pork in swill-feeding or conducting heat treatment of swill.

It is also important to have a good solid legal basis to work for disease prevention and control in domestic pigs. In some countries, there is a good legal framework but one that only targets the large commercial farms, not the smallholders.

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