On-going activities on African Swine Fever

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Animal Health Animal
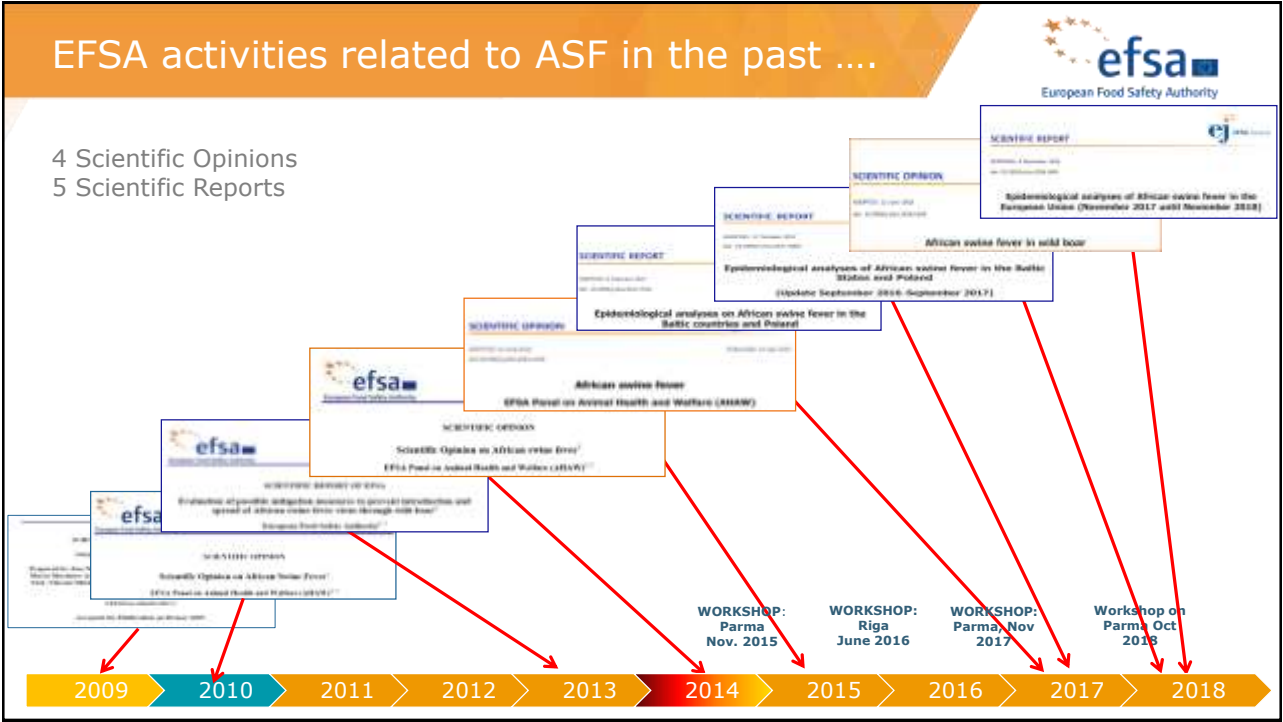Welfare Team ALPHA Unit

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Trusted science for safe food

EFSA activities related to ASF in the past ….

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4 Scientific Opinions
5 Scientific Reports

| WORKSHOP: Parma Nov. 2015 | WORKSHOP: Riga June 2016 | WORKSHOP: Parma Nov 2017 | Workshop on Parma Oct 2018 |

| 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |

… and during 2019

- Request for Scientific Opinion: June 2019
  - Estimate the risk of spread of ASF in South Easter Europe and identify the main risk factors
  - Evaluate the ability of matrices to transmit ASF (update the evaluation done in Scientific Opinion of 2014)

- Request for Scientific Report : June 2019
  - Research gap analysis

- Request for Scientific Report: December 2019
  - Epidemiological Analysis on ASF outbreaks

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Scientific Report: December 2019

- Descriptive Epidemiology and Spatial-temporal analysis of the outbreaks
- Review the identified risk factors for occurrence, spread and persistence of the ASF virus in wild boar and domestic pigs occurrence
- Assess the epizootic of ASF in Romania
  - Case study and Vector Survey
- Review the control measures applied
- Wild boar measures and strategies
  - Hunting (methods, density and threshold)
  - Fencing
  - Surveillance

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Scientific Opinion AHAW Panel: June 2019

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- Assess the risk of spread of ASF in the South Eastern Countries of Europe (TOR1)

- Review the evaluation of the ability of matrices to present a risk to transmit ASF (update the evaluation done in Scientific Opinion of 2014) (TOR2)

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Scientific Opinion , TOR1

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- Area of Concern: 9 non-affected countries of south-eastern Europe

  - ➤Albania
  - ➤Bosnia and Herzegovina
  - ➤Croatia (EU)
  - ➤Greece (EU)
  - ➤Kosovo
  - ➤Montenegro
  - ➤North Macedonia
  - ➤Serbia
  - ➤Slovenia (EU)

Scientific Opinion, TOR 1

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- Methodology

Qualitative risk assessment of:
  - ➢Potential spread and establishment of ASF in the **region of concern** after introduction
  - ➢Comparison of potential spread and establishment of ASF **between countries** in the region of concern, given introduction
  - ➢Potential spread of ASF, given introduction, **from the region of concern to non-affected EU countries**

Scientific Opinion , TOR1: Indicators to be assessed

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- Animal Populations
  - ✓ Domestic Pigs and Husbandry Systems
  - ✓ Wild boar distribution and density
  - ✓ Hunting policy

- Preparedness of the Authorities
  - ✓ Legislative framework
  - ✓ Laboratory capacity
  - ✓ Awareness campaigns
  - ✓ Veterinary Services Capacity
  - ✓ Surveillance activities
  - ✓ Compensation of farmers
  - ✓ Registration and identification systems
  - ✓ Communication and cooperation between Authorities
  - ✓ Contingency plans

- People Movement
  - ✓ tourism
  - ✓ refugees
  - ✓ labour migration

- Trade Activities
  - ✓ Domestic pigs
  - ✓ Products

- Social Economical Indicators
  - ✓ Human population density
  - ✓ Pork consumption
  - ✓ Income and Poverty
  - ✓ Corruption and compliance with regulations

TOR2: Context for evaluation of the matrices

- Update needed of previous qualitative assessment from 2014

  - include retrospective analysis of ASF spread mechanisms.

  - Ranked matrices based on their level of risk with a view to enhance preparedness and prevention.

  - propose and assess a strategy to manage the risks

Rank	Matrix
Very high	Frozen meat
High	• Chilled meat • Wild boar (transported) • Domestic pigs (transported) • Skin fat • Vehicles for animal transport contaminated inside
Moderate	• Naturally smoked meat • Salted, fermented, dried (+/spiced) meat (e.g. pepperoni, salami,...) • Salted, dried meat (e.g., salted and dried hams, shoulders, loins...) • Any vehicles contaminated outside • People involved with pig-keeping • Slurry • Animal feed • Litter • Fomites
Low	• People not involved with pig- keeping • Ticks
Very low	• Vegetables • Crops • Pests (rodents) • Pets • Hay and straw • Bloodsucking insects
Negligible	• Meat cooked for 70 °C for 30 min

EFSA, 2014 ranking of the ability to contain infectious ASFV

ToR2: Data collection

Production and preserving procedures

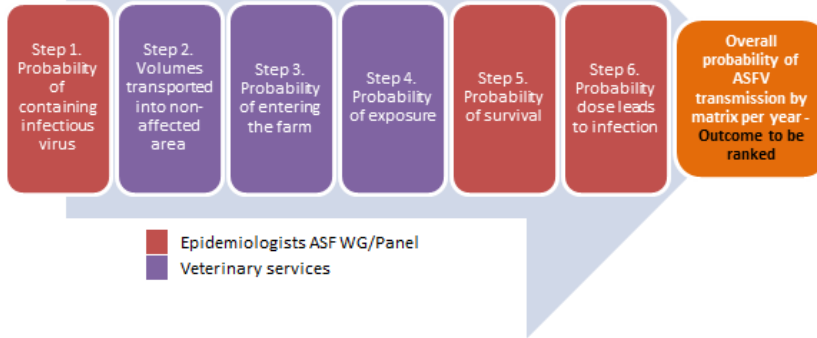Survival time of ASFV observed at different temperatures

Volumes traded

- Matrices subject to evaluate:

  - Unprocessed pig-derived food/food ingredients: fresh meat, organs, blood, skin fat/lard,…

  - Processed pig-derived food: cooked cured meat, precooked products, raw cured meat, raw fermented meat

  - Processed pig-derived feed ingredients: greaves, blood products, hydrolysed proteins, gellatin, collagen

  - Contaminated materials: feed, water, vehicles, bedding, feed mixtures, cereals, forages and commercial feed additives.

    SOURCES: literature/industry/unpublished information
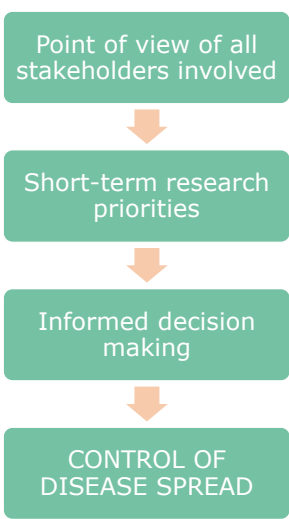
TOR2 Methodology: pathway of transmission

EUSurvey

| Step 1. Probability of containing infectious virus | Step 2. Volumes transported into non-affected area | Step 3. Probability of entering the farm | Step 4. Probability of exposure | Step 5. Probability of survival | Step 6. Probability dose leads to infection | **Overall probability of ASFV transmission by matrix per year - Outcome to be ranked** |

■ Epidemiologists ASF WG/Panel
■ Veterinary services

Overall probability of ASF transmission

$$=(1-(1-P_{\text{infected matrix}}*P_{\text{survival}}*P_{\text{dose leads to infection}})^{n*P_{\text{entering swine farm}}*P_{\text{swine contact}}})$$

Gap analysis: Art. 31

Point of view of all stakeholders involved

↓

Short-term research priorities

↓

Informed decision making

↓

CONTROL OF DISEASE SPREAD

Request for Scientific and Technical Assistance on African Swine Fever (Gap analysis)

Methodology

Epidemiologic status of the area	Respondants (85)	Cathegory (10)	Subcathegory e.g.(46)	
Area with an ASF focal introduction	CVO	Wild boar	WB ecology	WB density (…)
ASF affected area for less than two summer seasons	Veterinary Officers	Biosecurity	Biosecurity protocols	Risk factors of ASF occurrence in domestic pig farms (…)
ASF affected area for at least two summer seasons	Ministry of Agrigulture	Disinfection	Virus inactivation methods and products	Carcass disposal methods (…)
ASF free area in the proximity of an affected area	Farmers associations	ASF survival and transmission	ASF survival and transmission in different materials	ASF survival in soil and or environment (…)
ASF free area far away from the affected area	Pig feed industry	Communication	Increase public awareness	Open data exchange between EU MS (…)
	Hunters associatons	MS management structure	Single ASF management structure in country (Single Point Of Contact)	International joint ASF control team (…)
	Forest official services	Surveillance	improve early detection	Safe trade zoning (…)
	FVE	Diagnosis …	non-invasive tests for wild boar	improved rapid test (…)

EFSA' s Outputs and Material related to ASF

- Animation
  - ✓ Biosecurity Measures
  https://www.youtube.com/watch?v=eyQ4t1wHl2M

African Swine Fever: how to stay one step ahead

- EFSA' s webpage for ASF
  - ✓ Opinions and reports
  https://www.efsa.europa.eu/en/topics/topic/african-swine-fever

- Vector born Diseases 36 interactive Story Maps
  - ✓ ASF story map
  https://efsa.maps.arcgis.com/apps/PublicGallery/index.html?appid=dfb
  eac92aea944599ed1eb754aa5e6d1

Vector-borne diseases

36 INTERACTIVE STORY MAPS

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