

# PANORAMA

Thematic portfolio



Strengthening preparedness  
and resilience to emergencies



© OIE / Abdulrahman Alfrejeh kh

# PERSPECTIVES

# DOSSIER

# AROUND THE WORLD

*Illegal smuggling and transport of animal products in passengers' luggage is a demonstrated pathway for the spread of transboundary animal diseases around the world. This route is especially important for African swine fever (ASF) because of the high resistance of the virus (ASFv) in infected products.*

Risks can be reduced through targeted interventions, e.g. communication campaigns, so that passengers understand the risks of their actions and the penalties if they get caught, and surveillance at ports of entry (detection dogs, luggage inspections, self-declarations, interviews, etc.). These interventions are most effective when targeted towards high-risk passengers during high-risk periods and at high-risk ports of entry. Therefore, risk assessment can help to target communication campaigns and surveillance activities to make them more effective. A targeted approach supports greater efficiency, making it particularly applicable and useful in low-resource settings.

Existing data sources and new methodologies (for example machine learning methods and interconnection of databases) allow faster and better-quality assessments. A quantitative stochastic risk assessment model has been developed to estimate the risk of ASFv introduction into the United States of America by illegal swine products carried by air passengers [1]. The results showed that it was possible to identify the countries of origin, airports and months that presented a higher risk for the introduction of infected products. The model can be adapted to other settings and easily updated with new data (as demonstrated by the authors after the introduction of ASF into the People's Republic of China [2]) to implement and feed real-time surveillance systems. This could potentially help customs to increase the detection rate of smuggled products, by indicating when and where to look for them.

Without targeting of activities and resources, controlling this route can be very difficult because of the numerous limitations (personnel, resources, low sensitivity of detection, time for controls, etc.).

<http://dx.doi.org/10.20506/bull.2020.2.3153>

## DOSSIER

# Risk assessment to inform targeted surveillance at airports and prevent the introduction of African swine fever

## SUMMARY

Risk assessment can identify higher risk periods and routes of entry of ASF through smuggling of animal products in air passenger luggage. The use of such models would facilitate the implementation of targeted surveillance and other preventive measures.

## KEYWORDS

#African swine fever (ASF), #animal movement, #risk assessment, #smuggling, #surveillance, #transboundary animal disease.

#### AUTHORS

[L. Mur](#), World Animal Health Information and Analysis Department, [World Organisation for Animal Health \(OIE\)](#).



#### REFERENCES

1. Jurado C., Paternoster G., Martinez-Lopez B., Burton K. & Mur L. (2019) – Could African swine fever and classical swine fever viruses enter into the United States via swine products carried in air passengers' luggage? *Transbound. Emerg. Dis.*, **66** (1), 166–180. <https://doi.org/10.1111/tbed.12996>.
2. Jurado C., Mur L., Aguirreburualde M.S.P., Cadenas-Fernández E., Martínez-López B., Sánchez-Vizcaíno J.M. & Perez A. (2019). – Risk of African swine fever virus introduction into the United States through smuggling of pork in air passenger luggage. *Sci. Rep.*, **9**, 14423. <https://doi.org/10.1038/s41598-019-50403-w>.

**The OIE** is an international organisation created in 1924 with a mandate from its 182 Members to improve animal health and welfare. Its activities are permanently supported by 323 centres of scientific expertise and 13 regional offices with a presence on every continent.



Follow the OIE: [www.oie.int](http://www.oie.int)



@OIEAnimalHealth



World Organisation for Animal Health - OIE



OIEVideo



World Organisation for Animal Health



World Organisation for Animal Health (OIE)



Digital version: [www.oiebulletin.com](http://www.oiebulletin.com)



**WORLD ORGANISATION FOR ANIMAL HEALTH**  
*Protecting animals, preserving our future*

12, rue de Prony - 75017 Paris, France  
Tel.: +33 (0)1 44 15 18 88 - Fax: +33 (0)1 42 67 09 87 - [oie@oie.int](mailto:oie@oie.int)