

# Swine Disease Global Surveillance Report

Worldwide pork production is highly interconnected by trade between countries and markets, which could increase the risk of introduction of foreign pathogens into the US.

## PROJECT

The aim of these reports is to have a structure for near real-time identification of hazards that will contribute to the mission of assessing risks to the industry and ultimately, early detection, identification, or prevention of occurrence, in partnership with official agencies, and with our international network of collaborators.

Monthly reports are created based on the systematic screening of multiple official data sources, such as government and international organization websites, and soft data sources like blogs, newspapers and unstructured electronic information from around the world then curated to build a raw repository. Afterward, a group of experts use a multi-criteria rubric to score each event, based on novelty, potential direct and indirect financial impacts on the US market, credibility, scale and speed of the outbreak, connectedness, and local capacity to respond from which an average is calculated. The output of the rubric is a final single score for each event which is then published in the report.

***Disclaimer:** These communications and the information contained therein are for general informational and educational purposes only and are not to be construed as recommending or advocating a specific course of action.*



UNIVERSITY OF MINNESOTA



Swine Health Information Center

### *UMN Technical Coordination*

Eliana Paladino<sup>1</sup>, Auguste Brihn, Sol Perez,  
Andres Perez<sup>2</sup>

### *Expert Focus Group*

Jerry Torrison, Montserrat Torremorell,  
Cesar Corzo, Paul Sundberg, John Deen

<sup>1</sup>Project coordinator: [epaladin@umn.edu](mailto:epaladin@umn.edu)

<sup>2</sup>Principal investigator: [aperez@umn.edu](mailto:aperez@umn.edu)  
[www.cahfs.umn.edu](http://www.cahfs.umn.edu)

Current and previous reports

[www.swinehealth.org/global-disease-surveillance-reports/](http://www.swinehealth.org/global-disease-surveillance-reports/)

**Spontaneous reporting  
TOOL**



## Swine Disease Global Surveillance Report Bi-monthly Update

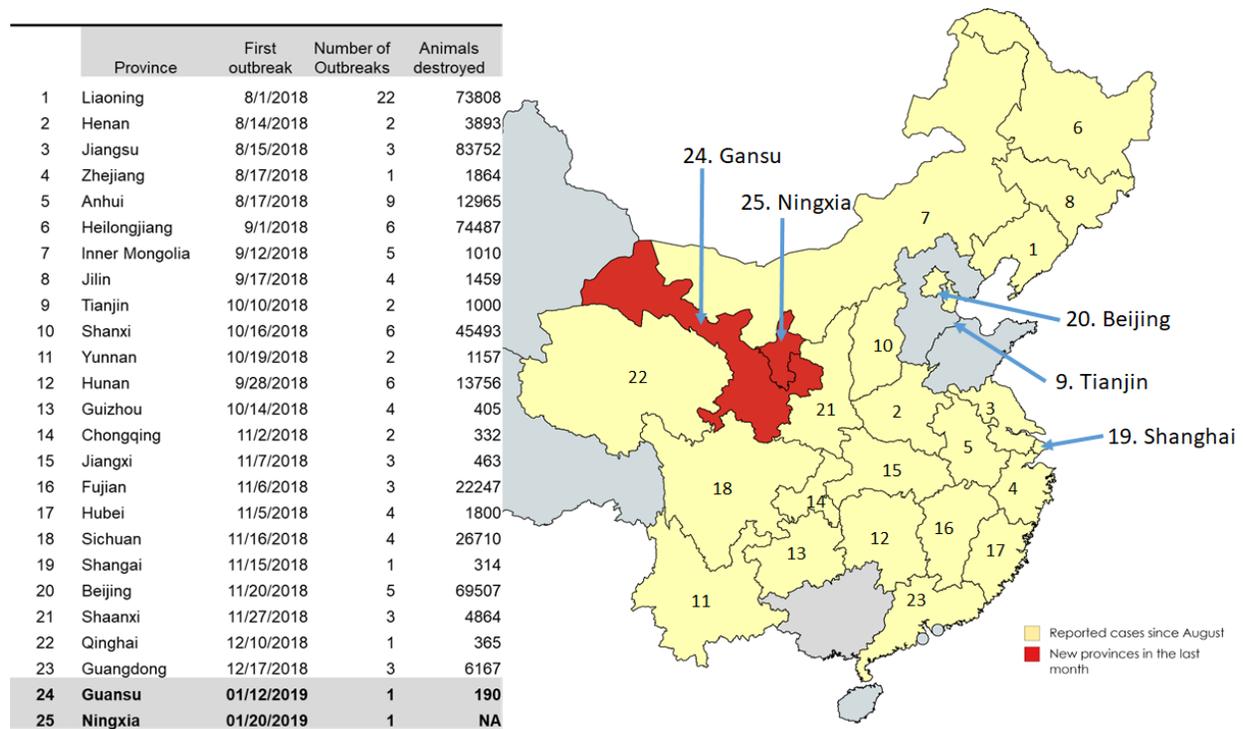
January 16, 2019

### Highlights

- China reports the first ASF outbreaks in Gansu and Ningxia provinces
- Multiple detections of ASF in products smuggled into Australia
- FMD outbreak in South Africa's FMD free zone

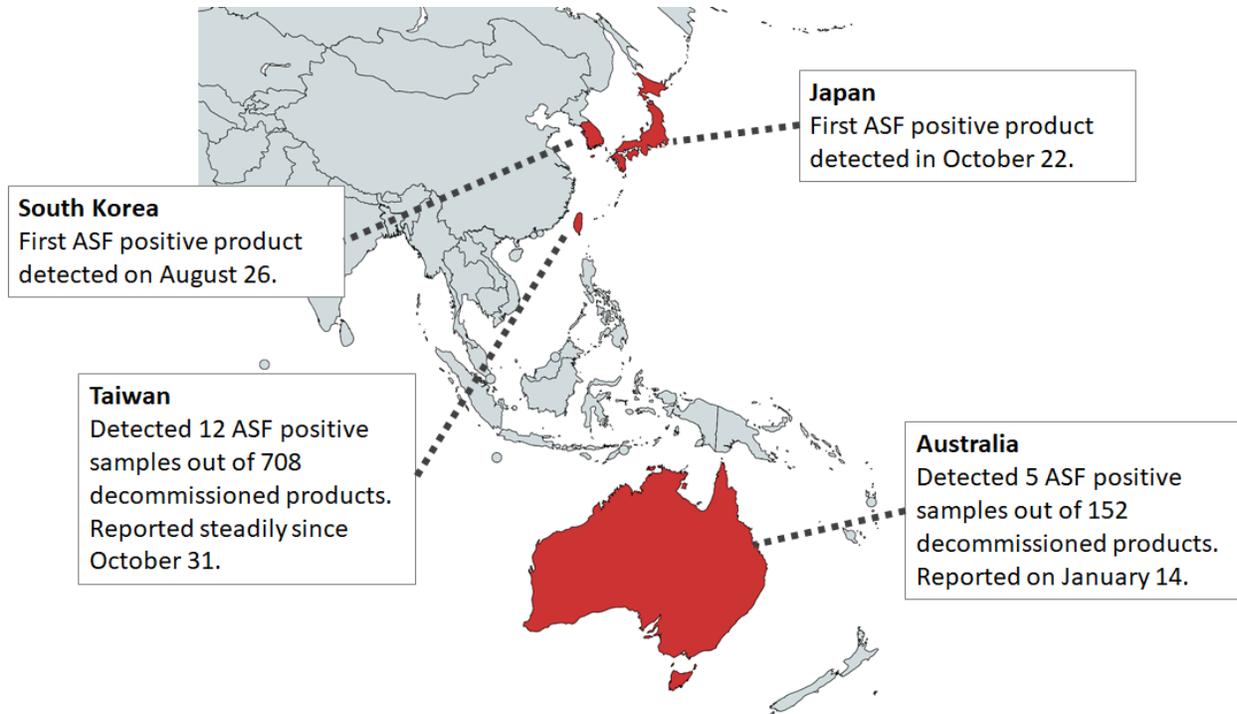
### Asia and Australia

On January 13 and January 20, China reported the first ASF outbreaks in Gansu and Ningxia provinces, respectively, making a total of 25 provinces affected by the disease since last August (Map 1). During the same week, the largest outbreak in Jiangsu, so far, was reported, affecting a farm with 69,000 pigs. The outbreak was a significant setback for the province, as it appeared to have succeeded in controlling the expansion of the disease at the provincial level since its last outbreak in September.



Map 1: Chinese provinces that have reported ASF outbreaks since last August. In red: new cases during January.

Meanwhile, the Australian Department of Agriculture has reported the first cases of ASF detected in products confiscated by authorities at points of entry. Authorities communicated that the ASF virus (ASF) was found in five of 152 samples analyzed by the Australian Animal Health Laboratory in Geelong. In addition to the findings in Australia, South Korea, Japan and Taiwan have also reported the identification of ASF in confiscated products at ports of entry since last August (Map 2).



*Map 2. Regional reports on ASF detection in products smuggled through points of entry (mostly airports).*

In a communication with SHIC, USDA:APHIS has indicated:

*"The USDA takes the ASF threat seriously. We have existing mitigation measures in place to prevent the introduction of the disease through imports, as well as measures in place and in development to quickly respond to a finding of ASF in the United States.*

*Preventing the introduction of ASF through imported pork and pork products is one such mitigation. In August 2018, the USDA communicated with our partners at the Customs and Border Protection (CBP) regarding the importance of heightened awareness of ASF and the potential risks associated with swine products carried by travelers. USDA requested that CBP pay close attention to passenger baggage from ASF-affected countries.*

*CBP reports that their personnel maintain a high degree of vigilance to mitigate the risk of ASF entry into the country through pork and pork products. They also report that they are closely analyzing data and looking for any changes in seizure rates of swine products; particularly within the past couple of months. Increases in inspections (both passengers and express consignment cargo) are occurring; however, rates of swine product interdictions are remaining relatively flat. This is actually good news as it suggests that CBP was operating with high efficiency prior to the increased emphasis on swine/animal product vigilance. We will continue to encourage the high focus on swine and animal products and will continue to monitor for any upticks.*

*USDA does not currently have a protocol for testing seized pork products for ASF. We consider all seized product to be potentially contaminated and handle and dispose of such materials as contaminated. Existing mitigation measures have successfully prevented the introduction to date of numerous foreign animal disease affecting swine such as African Swine Fever, Classical Swine Fever, and Foot-and-Mouth Disease."*

A recently published scientific study (Jurado et al, 2018) estimated a relatively high risk of introduction of ASF into the US through prohibited swine products carried by air passengers. Those estimates suggested that, on average, certainly (cumulative probability = 1) there would be an introduction of ASF into pigs in the US through prohibited swine products carried by air passengers once every 16 years, with a wide 95 percent confidence interval corresponding to between five and 142 years. Since the data were initially analyzed, ASF has expanded severely into Western Europe and China, and probably has resulted in a modification of the estimates of risk associated to this pathway of entry. With co-funding by SHIC and the National Pork Board, the University of Minnesota is working on an update of that assessment, measuring how the recent changes in the distribution of ASF has increased this risk

## **Africa**

- *FMD in South Africa*

On January 14, South Africa (SA) reported a new outbreak of FMD in the Limpopo region, which has been estimated to have started on November 11. Even though SA has reported several outbreaks during 2018, all of them had occurred within the limits of the protection zone, close to Kruger National Park, and therefore those early outbreaks have not affected South Africa's FMD free zone. Unfortunately, this last outbreak spilled into the high Surveillance Area, which is outside of the protection zone in a village with 20,000 susceptible animals, where 10 cases have been registered so far. Consequently, South Africa's FMD-free status has been suspended, impacting on the beef industry, as South African exports have been banned by trade partners.

## Europe

- *ASF at Belgium-France border*

France announced the culling of all wild boar in a several kilometers wide zone along the Belgian border in response to the recent report of two ASF cases. The outbreak occurred on January 9 in Belgium about one kilometer from the French border. The ministry also says a perimeter fence will be built as soon as possible.

The French government released a statement indicating that they “are now at a maximum risk level.” Last year’s outbreak of African swine fever in Belgium raised the concern of the disease spreading into western Europe and affecting large pork producing countries such as France, Germany, and Spain.

- *DEFRA ASF Risk Assessment*

In the same week, the United Kingdom’s Department of Environment, Food, and Rural Affairs (DEFRA) released a [qualitative risk assessment of risk of ASF](#) entering the UK from EU member states by all pathways, including human-mediated routes. The report results show that *“the risk level for the entry of ASF into the UK has been increased to medium (i.e. occurs regularly or likely) with a medium level of uncertainty, which implies risk managers will need to consider more options for risk reduction”*.

There are many Eastern European workers in the UK and concern that someone could bring contaminated pork products into the UK is real, Dr. Zoe Davis chief executive of the National Pig Association said to the Telegraph. From a management perspective, this probability is considered “likely to occur.” DEFRA noted that transportation and passengers (acting as fomites) were transmission pathways that imposed a medium risk of ASF introduction into the UK but with high uncertainty. A spokesperson for DEFRA said disease control measures are in place and they are working closely with the pig sector to raise awareness of the risks and advice on maintaining high biosecurity.

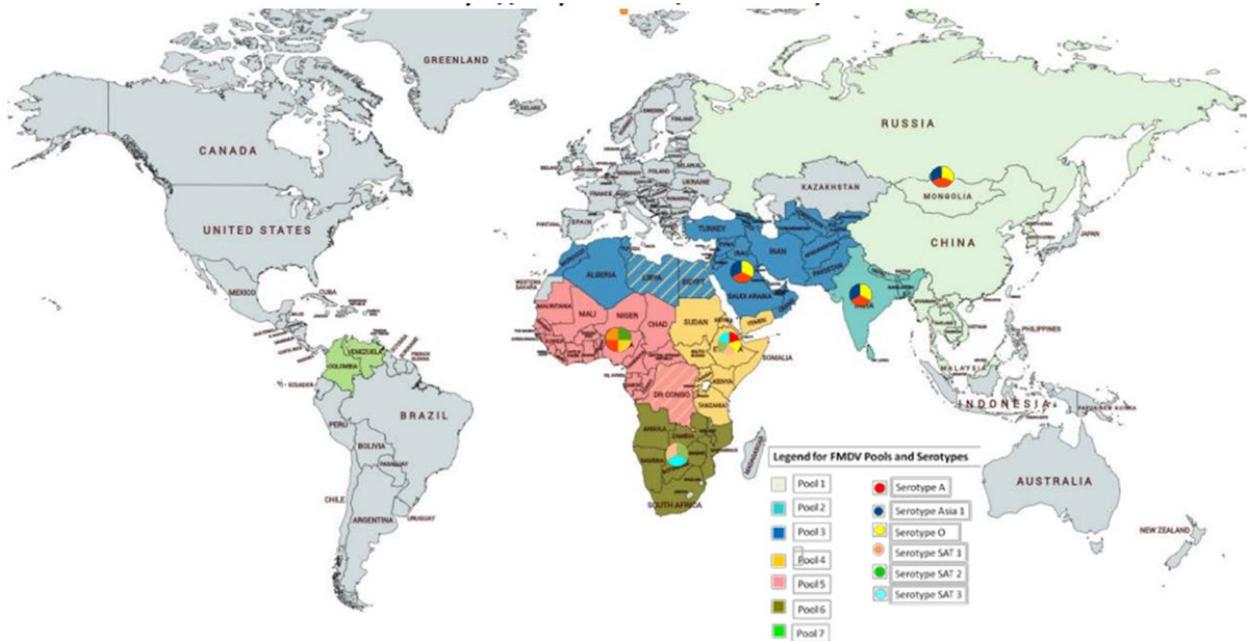
## FAD US preparedness

The looming threat of Foreign Animal Disease (FAD) to the United States is of major concern. This is exemplified by current outbreaks of African swine fever throughout Asia and Europe. One FAD, foot and mouth disease (FMD), has not been detected in the United States since 1929 and currently the United States maintains an FMD disease free status. However, an outbreak of a FAD would have a crippling and lasting effect on the US agricultural economy. Huge financial burdens can be demonstrated by the 2001 FMD outbreak in the UK, costing the

public sector over £3 billion and the private sector over £5 billion according to the National Audit Office.

In response, a National Pork Producers Council-led initiative proposed the creation of a vaccine bank to prepare for a possible FMD outbreak. This proposal became part of the new 2018 Farm Bill which secured \$150 million for the USDA to use over the next five years. This bill includes a broad list of priorities including: the vaccine bank, NAHLN labs, and prevention and preparedness grants for states. Of the \$150 million, the bill provides \$38 million, dispersed over five years, for state grants with the allocation of remaining funds to the discretion of the Secretary. These funds become a baseline that will continue into future farm bills.

Still, it is important to highlight the remaining challenges, as FMD presents a large antigenic diversity of the different serotypes, which means that there is not a single FMD vaccine, but more than 20 different vaccines just to cover the high priority types circulating around the world (Map 3). Vaccination against one serotype does not cross-protect against other serotypes. For that reason, it is difficult to estimate the quantity of vaccine doses needed, and the specific vaccine strains that would be required to protect against a hypothetical outbreak. Currently, the US does not have quick access to FMD vaccine quantity sufficient to address a large outbreak. If an outbreak did occur, outbreak antigens would need to be matched with banked vaccine in France and additional vaccine would have to be manufactured and this could take weeks to months depending on the scale of the outbreak.



Map 3: Foot and mouth disease (FMD) virus pools: world distribution by serotype in 2013-2017 (source FAO FMD 2018 report (EuFMD, <https://mapchart.net/world.html>)).

## References

- <https://www.telegraph.co.uk/news/2018/12/12/uk-farmers-warned-alert-african-swine-fever-virus-hits-europe/>
- <https://www.gov.uk/government/publications/qualitative-risk-assessment-risk-of-introducing-african-swine-fever-to-the-uk-pig-population>
- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/770081/asf-qla-november2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770081/asf-qla-november2018.pdf)
- <https://www.drovers.com/article/fmd-bank-farm-bill-big-win-livestock-industry>
- <http://nppc.org/issues/issue/fmd-vaccine-bank/>
- <https://www.reuters.com/article/us-france-swinefever/france-to-cull-wild-boar-at-belgium-border-in-swine-fever-alert-idUSKCN1P81U0>
- [https://www.aphis.usda.gov/animal\\_health/emergency\\_management/downloads/fmd\\_plan\\_rrg\\_vaccine.pdf](https://www.aphis.usda.gov/animal_health/emergency_management/downloads/fmd_plan_rrg_vaccine.pdf)
- [http://www.fao.org/fileadmin/user\\_upload/eufmd/FMD\\_reports\\_GMR/February2018.pdf](http://www.fao.org/fileadmin/user_upload/eufmd/FMD_reports_GMR/February2018.pdf)