

# 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 system for near real-time identification of hazards that will contribute to the mission of assessing risks to the industry and ultimately, facilitate early detection and identification, or prevent occurrence of events, 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, that then are curated to build a raw repository. Afterward, a group of experts uses 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 average is calculated. The output of the rubric is a final single score for each event which then it is published including an epidemiological interpretation of the context of the event.

*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.*



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[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

Tuesday, June 4, 2020 – Wednesday, July 8, 2020

### Report Highlights

- **Intercepted meat products in California:** 19,555 pounds of smuggled food products from China
- **West Africa:** Nigeria reports the largest outbreak of ASF in the last 12 years
- **Avian-like H1N1 swine influenza virus:** OIE-FAO Network of expertise on animal influenza released a communication regarding Influenza G4

### JULY OUTBREAKS BRIEF

R	Location	Date	Disease	Impact
1	<a href="#">China</a> - Southwestern Yunnan Province, Yongsheng county	6/5	ASF	Outbreak on 1 farm, 102 pigs affected, a first in this province since November 2019
1	Myanmar - Taung Gyi, Shan State	6/9	ASF	Outbreak affecting backyard farm, 90 pigs affected.
1	<a href="#">Philippines</a> - Bansalan town, Davao del Sur	6/11	ASF	Outbreak in 1 village, 17 pigs culled within a 1-km radius from the epicenter. Strict monitoring and surveillance within 7 and 10 km enforced.
1	<a href="#">Poland</a> (Western) - Ratowice village, Lezno County, Greater Poland Province	6/15	ASF	Outbreak affecting farm with 24 pigs in total. Village located 21 km east of known closest case of ASF in wild boar and 125 km from Germany border.
2	Nigeria -	6/18	ASF	Outbreak affecting up to 1 million pigs. See <i>the summary within the report</i> .
1	Rwanda - Kayonza district	7/2	FMD	First outbreak since October 2017, affecting 499 cattle. Serotyping is still pending.

*The outbreaks described in the table above are colored according to an assigned significance score. The score is based on the identified hazard and potential it has to the US swine industry. Rank(R) Blue: 1 - no change in status; Red: 2 - needs extra attention as the situation is dynamic; Black: 3 - requires consideration or change in practices to reduce exposure to the US swine industry.*

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## African Swine Fever

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### United States

#### *Nearly 20,000 pounds of illegal meat imported from China seized at Ports of LA*

From April 6 to June 6, US Customs and Border Protection (CBP) agriculture specialists assigned to Los Angeles-Long Beach port complex intercepted 19,555 pounds of prohibited pork, chicken, beef, and duck products arriving from China, officials said on June 19.

They found 12 shipments containing a total of 834 cartons that lacked the required USDA entry documentation. During the first five months of the fiscal year 2020, the interception of prohibited meats from China at the port has increased by 70% compared with the same period the year before, according to CBP.

The smuggled animal products were mixed in boxes of headphones, door locks, kitchenware, LCD tablets, trash bags, swim fins, cell phone covers, plastic cases, and household goods, according to Jaime Ruiz of CPB. Chinese animal products are in high demand in certain communities in the United States. Smugglers attempt to bring those products which are later sold in markets.

It is well known that China is a country affected by African swine fever (ASF), classical swine fever, Newcastle disease, foot-and-mouth disease, highly pathogenic avian influenza, and swine vesicular disease. Accordingly, USDA and CBP are working hand in hand to intercept illegal products and protect the country from tremendous health problems and the introduction of foreign animal diseases. When those unauthorized animal products are discovered, CBP reports the violation to the USDA and issues an emergency action for the expedited destruction of the contraband.

#### *AgView - preparedness tool*

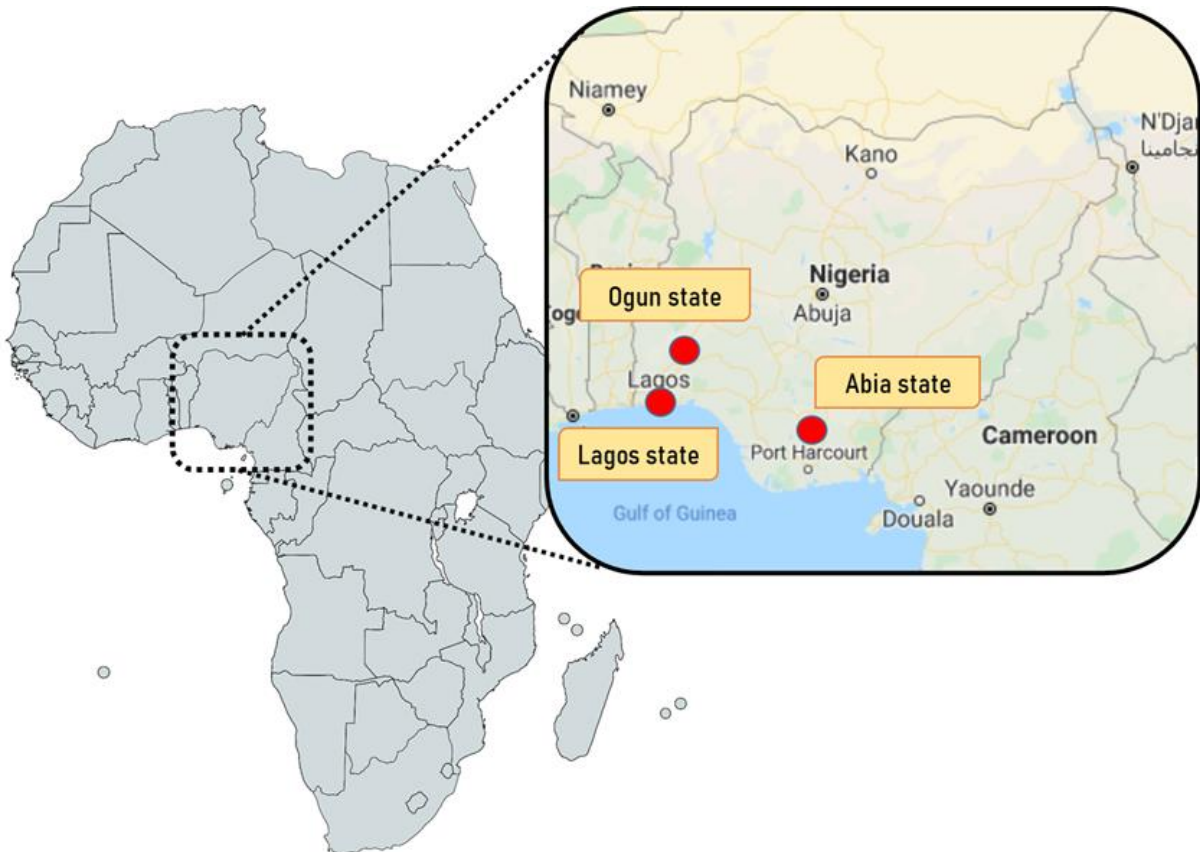
The National Pork Board will release AgView, an online “database and dashboard technology,” later in the year. Information collected from this tool will help state animal health officials receive data and other information to develop risk-based assessments should a foreign animal disease outbreak occur on US soil. The ultimate goal is to protect business continuity for producers by containing and eradicating outbreaks quicker.

Patrick Webb, the director of swine health programs at the National Pork Board, encouraged readers of Pork Business to develop a continuity business plan for farms working in cooperation with Secure Pork Supply (SPS). (Producers are encouraged to go to <https://www.securepork.org>, if they have not already done so, to develop a plan). The SPS plan will be integrated into AgView, with instructions said to be coming later in the year. With a biosecurity plan in place, together with movement and premise data electronically organized, the state veterinarian is better equipped to respond to an outbreak - should one occur.

**AFRICA**  
**Nigeria**

The current ASF outbreak spread across Nigeria, which began in February around Lagos and Ogun, is currently described to be the “worst and largest outbreak ever.” Estimates of nearly [one million](#) pigs have been culled by mid-June. The largest cluster of ASF-affected pigs have been culled at the country’s largest pig co-operative, Oke Aro Farms in the state of Lagos. More than 600,000 breeding and matured pigs had been killed as of May. More than 85% of piglets were without their suckling sows.

Other farms have had pig deaths in the hundreds within a 24 hour time period and at least a quarter of 36 Nigerian states have been affected including those of Delta and Abia. Weaknesses in farm biosecurity, disease surveillance, and warning systems coupled along with a delay in raising alarm during initial outbreaks are all credited for the magnitude of this outbreak. Farm visits continued and infected animals were sold.



*Map 1. Location of officially reported outbreaks in Nigeria. Other sources state that at least a third of the country states are affected by this outbreak.*

Poor recordkeeping is also to blame: Nigeria is without an animal disease database. As such, according to an ASF researcher as told to the Guardian, local authorities rarely have outbreak data.

Farmers often quote much higher case numbers than OIE. In this regard, until July 7, Nigerian authorities have not reported to the OIE the number of animals affected by this outbreak.

Pig farming in Nigeria, while popular among the expanding middle class, has expanded in low-income families as a bid to escape poverty. According to the Pig Farmers Association of Nigeria, as reported in Pig Progress, the pig industry has grown by 40% over the last 10 years - ranking among the top African countries for pig production. The Nigerian government has distributed feed bags and fumigated infected pens on affected farms but has not offered financial assistance. Farmers told the Guardian the Nigerian pig industry has lost up to 20bn naira (\$52million) and more than 20,000 jobs at risk. Significantly affecting livelihoods, deaths amongst farmers have also been reported. Some farmers, as told to the Guardian, may not fully financially recover from their losses and many have already left the industry.

## EUROPE

### Estonia

#### *Estonia applies for ASF-free status*

Estonia's domestic pig population was officially declared ASF-free as of this year. The country now intends to submit a request to the European Commission to be given ASF-free status for wild boars. This status would repeal all restrictions on the trade of pigs and pig meat currently in force.

The last case in domestic pigs was documented in September 2017, while in wild boar, the last case was confirmed in February 2019, indicating that the circulation of the virus is extremely low or non-existent. Before the outbreak, the wild boar population was estimated 30,000-40,000 and their number has drastically declined to 4,000-5,000 and €10 million has been spent on fighting ASF in Estonia, and a total of 42,583 domestic pigs died or were killed in the process, according to Maarja Kristian, an adviser at the Animal Health and Welfare Department of the Veterinary and Food Board. In order to prevent ASF reinfection of wild boar, the Estonian veterinary authorities have determined that a stocking density of one animal per 1000 hectares of hunting land should be maintained. Taking all these facts into consideration, it may soon (this fall or toward the end of the year) be possible for the country to apply for ASF-free status from the European Commission for wild boar.

## Avian-like H1N1 swine influenza virus

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On June 29, a report published on PNAS ([LINK](#)) brought significant public attention stating the pandemic potential of an emergent reassortant of influenza virus in China.

In this article, the authors referenced to the prevalence of a specific reassortant, the EA H1N1 virus termed as genotype 4 (G4), in the swine population of China and its potential pandemic profile. In response to the public concern, the [OIE and FAO Network of Experts](#) release on July 3, a communication addressing this issue ([LINK](#)). Below we share a summary of this communication:

### *Summary context and global relevance*

The emergence of a dominant subclade (1C.2.3) or ‘G4’ of swine influenza A(H1N1) viruses in Chinese pigs with evidence of zoonotic transmission has raised questions for pandemic risk and preparedness. OFFLU, working through its open network have assessed the potential implications of the latest research findings. To date, there is no evidence that these viruses are present in pigs or humans outside of China but vigilance is strongly advised.



The ‘G4’ viruses were reported previously by the Harbin Veterinary Research Institute, China in a 2016 publication and have been the dominate genotype in Chinese swine populations since 2016. The viruses in the latest report show a number of characteristics associated with predicted increased affinity for zoonotic transmission, including:

- some genetic markers
- replication competence in human airway cells
- respiratory droplet transmission in ferrets.

Furthermore, a **seroprevalence of approximately 10%** based on a moderately small sample size in swine industry workers only, indicates some risk of exposure and zoonotic transmission, **although such seroprevalence might not be solely attributed to the “new” G4 viruses and to date, only two clinical human influenza A H1 variant (A/H1v) cases have been reported.**

The implications for swine influenza surveillance worldwide are that we recommend continued vigilance ensuring relevant diagnostic tools used are proven to detect a wide range of viruses including these emergent strains. The release of sequence data has allowed both public and animal health specialists to assess areas important in disease emergence, mitigation, and pandemic preparedness.

- It is critical to assess diagnostic test sensitivity and the potential for antiviral resistance in any pandemic preparedness planning.
- The development of [influenza candidate vaccine viruses \(CVVs\)](#), coordinated by WHO, remains an essential component of the overall global strategy for pandemic preparedness.
- Zoonotic influenza viruses continue to be identified and evolve both genetically and antigenically highlighting the need for continued international surveillance in animal populations.

### *Key facts regarding swine Influenza A H1N1:*

- **Influenza A(H1) viruses are enzootic in swine populations in most regions of the world.** Depending on geographic location, the genetic and antigenic characteristics of these viruses differ. Human infections with swine influenza A(H1) viruses (designated as A(H1)v viruses) have been documented previously in Asia, Europe, and the Americas.
- **Influenza A(H1)v activity from 24 September 2019 to 24 February 2020:** One human case of an A(H1N1)v virus infection was identified in China in this period.
- **Antigenic and genetic characteristics of the influenza A(H1N1)v virus:** No comprehensive antigenic analysis is available that includes these recent swine data alongside other reference swine IAV. Prior analysis of viruses of the 1C hemagglutinin (HA) genetic lineage detected in swine in Europe demonstrated they were genetically and antigenically distinct from the Hunan candidate vaccine viruses (A(H1)v A/Hunan/42443/2015 CVV) and thus a second CVV

(A/Netherlands/3315/2016) was developed. Additional ferret antisera production and antigenic characterization are underway in order to monitor the antigenic diversity of 1C lineage viruses.

- **Diagnostics:** From our in-silico analyses, we predict high test sensitivity to detect these Chinese 1C (Eurasian avian-like) viruses using M-gene targeted real-time PCR protocols as recommended by the OIE International Reference Laboratory for Swine Influenza at APHA-Weybridge, UK.
- **Genetic analyses:** The 77 sequences derived from pigs in China all cluster in the G4 (1C.2.3 clade). This clade has only been detected in Chinese pigs.
- **Antigenic properties:** The latest research did not assess the antigenic properties of the Chinese viruses against the 1C Hunan CVV in a hemagglutination inhibition assay and therefore **we recommend these phenotypic analyses are carried out urgently by OIE/FAO International Reference Laboratories and WHO Collaborating Centres through the WHO-OIE-FAO tripartite pandemic preparedness framework.**

**The OFFLU open network welcomes and encourages contributions from all stakeholders and is grateful for the support they receive from swine producers and veterinarians conducting surveillance in swine populations globally.**

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### AFRICA

#### Nigeria -

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### AMERICA

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### EUROPE

#### Estonia

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