

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 systematically 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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Swine Disease Global Surveillance Report

Tuesday, July 6, 2021 – Tuesday, August 3, 2021

Report Highlights

- **ASF in the Americas:** the first report of the disease after 40 years was confirmed by the USDA in samples originated from the Dominican Republic.
- **First cases of ASF in German pig farms:** three outbreaks were detected in Brandenburg state close to the border with Poland.
- **Spike in ASF cases in Poland:** authorities reported an increase of 520% in ASF outbreaks in domestic pigs compared to the first five months of the year.

MAY OUTBREAKS BRIEF

R	Location	Date	Disease	Impact
3	Monte Cristi and Sánchez Ramírez provinces, Dominican Republic	7/27	ASF	Two outbreaks in backyard farms were reported. 842 pigs affected.
2	Brandenburg state, Germany	7/16	ASF	Three outbreaks were reported in organic/backyard pig farms.
2	Multiple locations, Poland	July	ASF	Fifteen new outbreaks in pig farms were reported throughout July.
1	Several villages in Darrang district, Assam State, India	7/14	ASF	Hundreds of pigs have died or were culled. Authorities have banned pig rearing practices in all villages within 10km of the outbreak.
1	Sichuan province, China	7/20	ASF	ASF detected in 89 piglets illegally transported from another province.
1	Davao de Oro province, The Philippines	7/8	ASF	A new outbreak was confirmed in the province. Another 10 farms are under surveillance.
1	West region, Cameroon	Early July	Unknown	High mortality (n=30) in a batch of pigs coming from the northwest region.
	Kpone-Katamanso Municipality, Greater Accra Region, Ghana	7/22	ASF	Over 250 pigs died. Also, higher mortalities have been recorded in Kpone and its adjoining communities.

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 affect 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. Map with the location of the events reported is available at the end of this report.

African Swine Fever

America

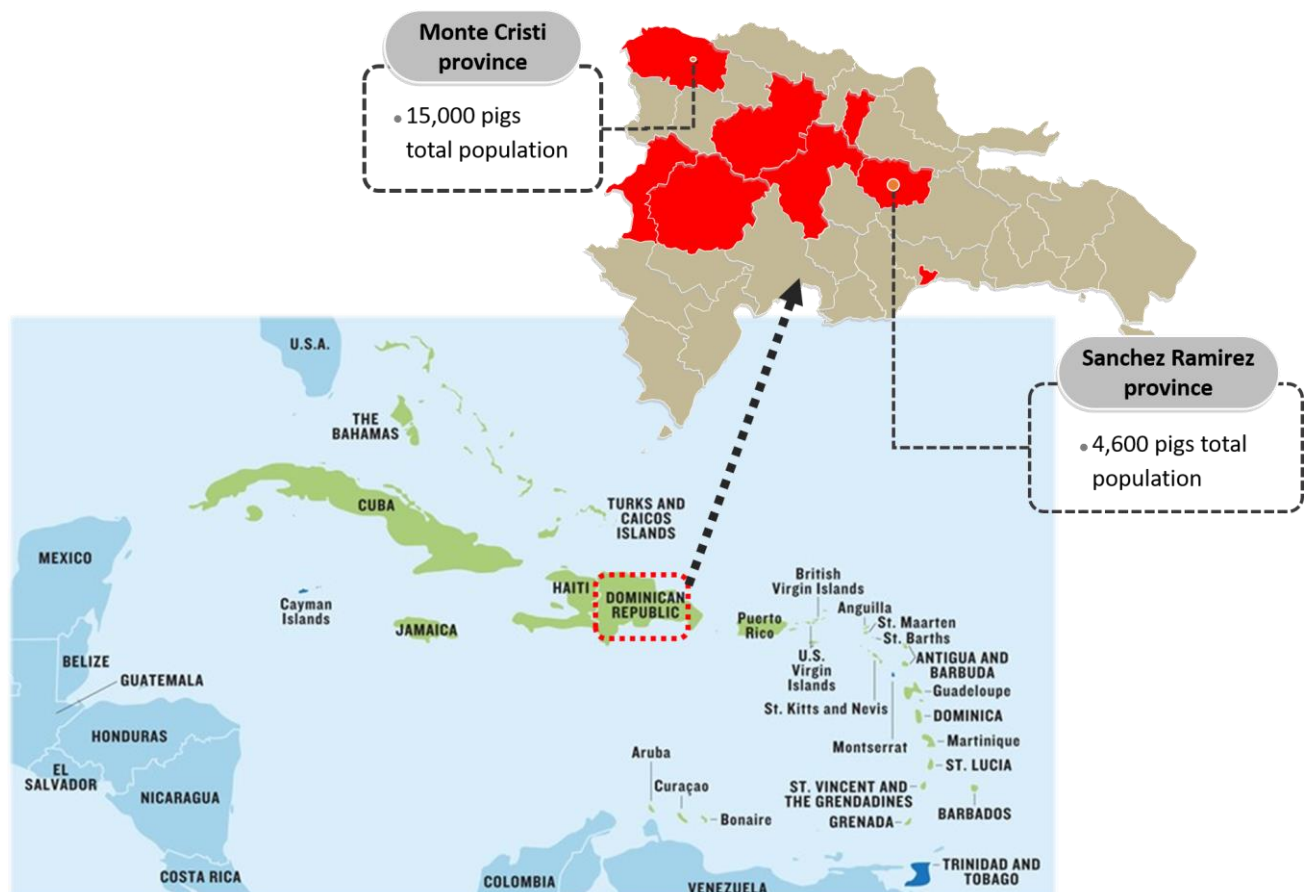
The Dominican Republic

*ASF has been reported in the Dominican Republic after 40 years since the last outbreak -
With this report, ASF is found on all five continents.*

On July 28, the Ministry of Agriculture of the Dominican Republic confirmed the presence of African swine fever (ASF) after learning the results of tests on 389 samples collected from pigs raised on farms and in backyards sent to the USDA - Foreign Animal Disease Diagnostic Laboratory (Plum Island) through an existing cooperative surveillance program.

Early response

On August 2, the Dominican Government reported that ASF has been detected in 11 provinces, including Sánchez Ramírez, Santiago, Hermanas Mirabal, La Vega, Montecristi, Elías Piña, San Juan y el Distrito Nacional (Map 1; there are still 3 provinces unidentified in the official communications).



Map 1. Dominican provinces affected by ASF

The first positive results came from samples from a swill-feeding backyard swineherd in La Breña in Sánchez Ramírez province, where eight of 12 animals tested positive, and another swineherd in La

Mina (20km from the border with Haiti), in Montecristi province. According to Pig Progress, there are 827 pigs on-site, of which 266 tested positive. In these two provinces, there is a total population of approximately 15,000 pigs and 4,600, respectively.

On Friday, July 29, the Official Commission for the Control and Eradication of ASF Outbreaks began the intervention of more than 2000 backyard pig farms across the affected provinces aiming to control the spread of the disease. Throughout the weekend, technical teams started the depopulation tasks in Sánchez Ramírez. Authorities estimate that over 17,000 pigs will be destroyed.

The Dominican government has assured that its Minister of Agriculture has already activated the National Emergency Committee for Exotic Diseases of Domestic Animals to ensure all institutions in the agricultural sector operate in a coordinated way to guarantee the national production of pigs.

Some of the immediate actions in place include:

- Entry and exit of live and slaughtered pigs in the affected provinces have been prohibited
- Military checkpoints have been strategically established in both provinces
- Epidemiological investigations are being carried out
- Producers will receive economic compensation through the Agricultural Bank within 15 days after herds are depopulated

Background

The Dominican Republic dealt with the disease from 1978 to 1980, with 374 outbreaks reported throughout that period, representing an impact of 192,473 culled pigs.

"This is a small population compared to the total population of pigs in the country, which is estimated between 1.5 million and 1.8 million pigs," authorities stated.

During that time, also, Cuba, Brazil, and Haiti reported outbreaks of the disease, leading to the culling of over 1.2 million pigs. *Follow the [link](#) to further information.*

Regional Alert

In response to the recent confirmation of ASF in the Dominican Republic, The Caribbean Agricultural Health and Food Safety Agency (CAHSFA) advised Caribbean Community (CARICOM) Member States to intensify protective measures against ASF.

On Thursday, July 29, this regional emergency was under discussion at the 21st Annual Meeting of the Committee of Chief Veterinary Officers, where recommendations to limit the spread of the disease to other countries in the region were as follows:

- Increased border surveillance
- Activating or updating national disease emergency/contingency plans
- Intensifying surveillance and early detection mechanisms and activities
- Intensifying regional coordination among development partners
- Revising and updating procedures to manage international garbage from ports of entry, and
- Improving collaboration in the area of diagnostics

Several international and regional organizations (FAO, IICA, OIRSA, etc.) are providing technical and financial support to counteract the emergency. OIRSA, the International Regional Organization for Agricultural Health, sent officers to the country to carry out support operations in the field over the weekend. In parallel, OIE, and FAO, after the official report was disseminated via the OIE-WAHIS, mobilized their [Standing Group of Experts](#) to provide support to the regional countries. An Emergency Management Regional Team has also been established to closely monitor the situation and support the affected and neighboring countries in the upcoming days under the GF-TADs (Global Framework for the progressive control of transboundary animal diseases) leadership.

Follow the [LINK](#) to access the report and recommendations of the Emergency meeting of the Regional Steering Committee (RSC) of the GF-TAdS of the Americas

USDA response

USDA's Animal and Plant Health Inspection Service (APHIS) has numerous interlocking safeguards in place to prevent ASF from entering the United States. Pork and pork products from the Dominican Republic are currently prohibited entry as a result of existing classical swine fever (CSF) restrictions.

Additionally, the Department of Homeland Security's Customs and Border Protection (CBP) is increasing inspections of flights from the Dominican Republic to ensure travelers do not bring prohibited products to the United States. CBP will also be ensuring that garbage from these airplanes is properly disposed of to prevent the transmission of ASF.

USDA is committed to assisting the Dominican Republic in dealing with ASF, is offering continued testing support, and will consult with them on additional steps or actions to support response and mitigation measures. USDA will also provide similar help to Haiti, which borders the Dominican Republic and is at high risk for ASF detections.

USDA has urged the Department of Homeland Security to increase surveillance of humans and their baggage from the Dominican Republic, especially by the beagle patrol at entry points, to have even more scrutiny for illegal movement of meat and pork products.

EUROPE

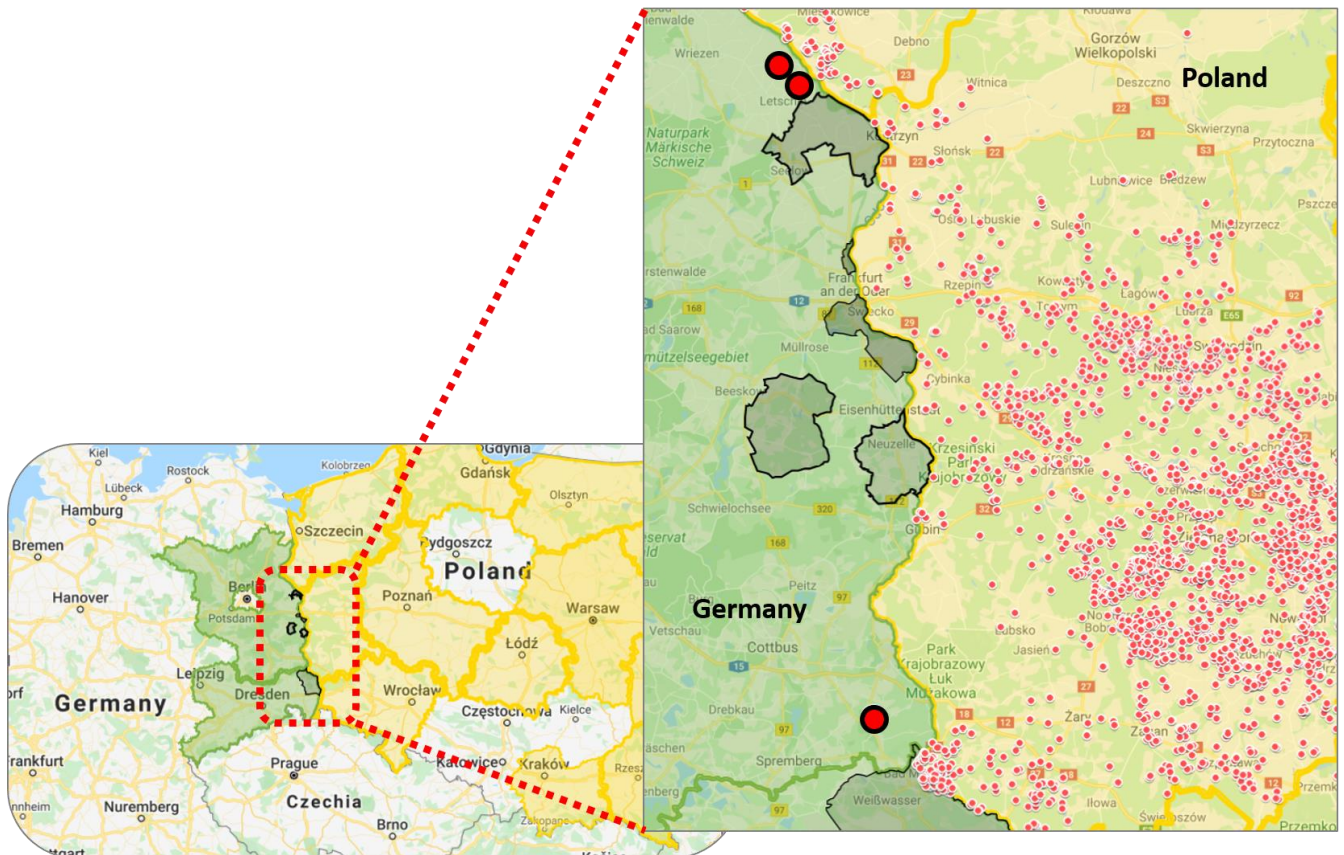
In July, Poland, Germany, Bulgaria, Estonia, and Romania reported new ASF outbreaks in domestic pigs. In three of them, Germany, Bulgaria, and Estonia, these outbreaks are the first reports in 2021. Meanwhile, 10 countries, including Poland, Germany, Bulgaria, Estonia, Hungary, Romania, Russia, Slovakia, Lithuania, and Latvia, have reported cases of ASF on wild boar (European Commission Animal Disease System (ADIS)).

The latest update from (ADIS puts the total for outbreaks of ASF among European wild boar so far this year at 8,148 across 12 countries (as of July 24). Compared with the previous update on June 27, this is an increase of 647. Since the beginning of 2021, European countries have registered 726 outbreaks in domestic pigs, 162 of them in the month of July, across Poland, Germany, Romania, Bulgaria, Estonia, Serbia, Slovakia, and Ukraine. (24/7_EC ADNS disease outbreaks report/).

Germany

On July 16, the German federal agriculture ministry confirmed the first two cases of ASF in farm pigs. These two farms are located in the eastern state of Brandenburg (Map 2). One of the farms is an organic enterprise with 200 animals, and the other, a backyard farm with only two pigs. Then, on July 19, a third case was confirmed in another small farm with four pigs inside one of the restriction zones in the Brandenburg state.

While import bans by many Asian importers, including China, remain in place, exports within the European Union continue to be supported by the regionalization framework in place.



Map 2. The location of the three pig farms in Germany that were detected positive for ASF in July

Border situation

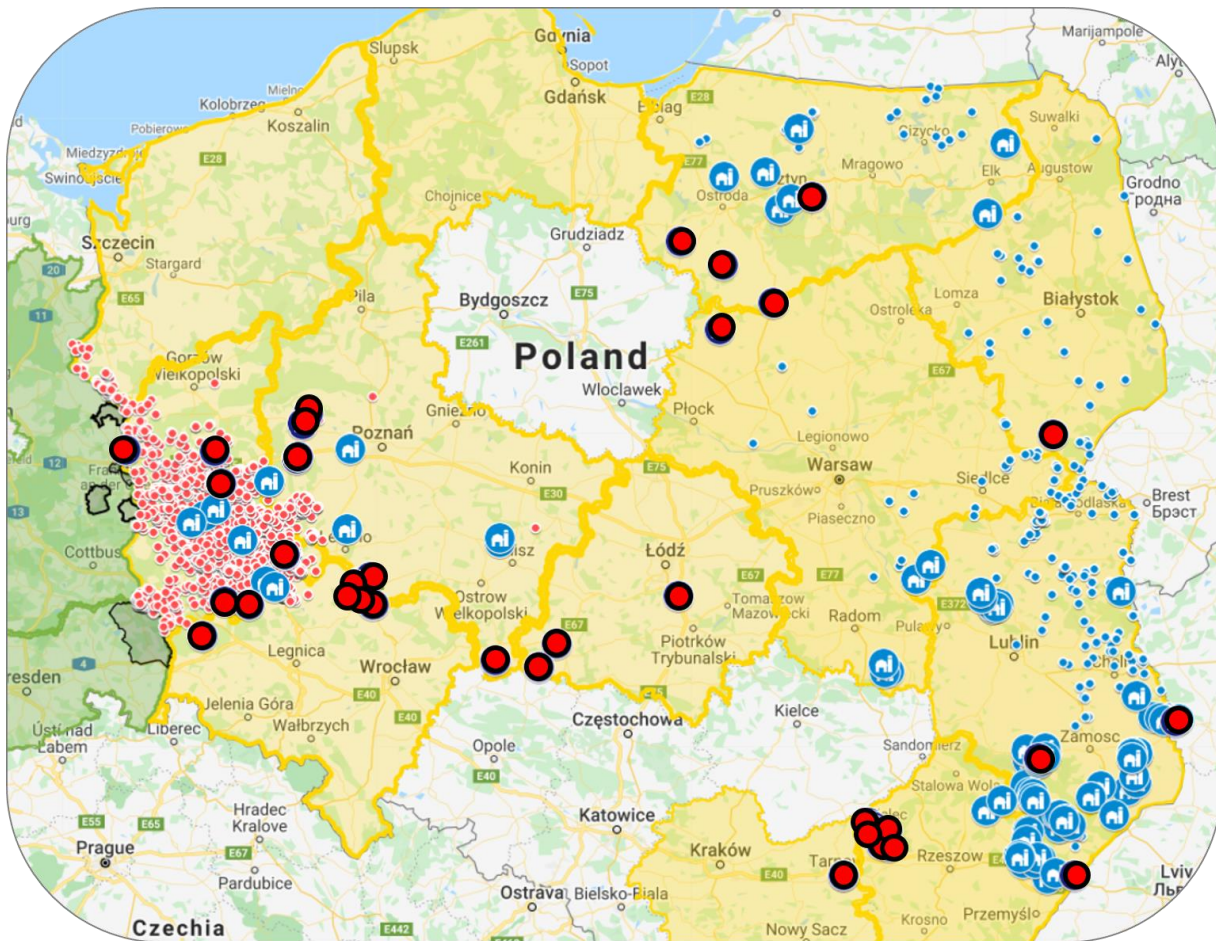
In a press release after these reports, German authorities highlighted the significant challenges they have dealt with when attempting to prevent incursions of ASF from Poland. The pressure of the disease at the border is enormous. In this regard, fencing has been built along the Polish border to prevent wild boars from entering Germany, and six zones were established with intensified hunting of wild boars (Map 2. Zones marked in black).

Poland

The number of new ASF outbreaks in pig farms in Poland has risen rapidly over the last month. At the moment 31 farm sites have been confirmed infected since the beginning of the year. Twenty-six of them reported in the last six weeks (Map 3).

Authorities hypothesize that this rise is connected with an unusually high number of infected wild boars detected this summer, which is uncommon for the season. Most cases seem to be related to each other and are distributed across 10 Polish provinces.

It is worth highlighting that within the affected farms, there are four backyard farms in Łódź province in central Poland, where so far, no outbreaks in wild boar were reported.



Map 2. The location of the pig farms in Poland that have reported ASF outbreaks in 2021 (in small red points: wild boar cases; in small blue points old farm cases; in larger light blue, ASF cases in pig farms in throughout 2020).

Raising awareness - EFSA takes science out into the field

In summer 2020, EFSA launched a major campaign to raise awareness of the disease in southeast Europe. The campaign was carried out in partnership with local authorities in countries comprising a “region of concern” — Albania, Bosnia, and Herzegovina, Croatia, Greece, Kosovo, Montenegro, North Macedonia, Serbia, and Slovenia — due to their proximity to countries where ASF is present. The campaign was well-received by these countries, and it complements the ongoing efforts of the European Commission and other international organizations to eradicate the disease in Europe.

The European Food Safety Authority is now extending the campaign – aimed primarily at farmers – to Bulgaria, the Czech Republic, Lithuania, Latvia, Poland, Slovakia, Estonia, Hungary, and Romania.

The campaign aims to raise awareness and understanding of ASF in all 18 countries and target groups of people and individuals who come into contact with domestic pigs and wild boar, particularly pig farmers. It is being implemented with the invaluable assistance of local veterinary organizations, farmers’ groups, hunting associations, border police, and other relevant bodies.

ASIA

In June, five countries - Bhutan, Indonesia, Malaysia, the Philippines, and India - reported new ASF outbreaks.

China

In early July, Reuters reported a resurgence of ASF in Sichuan, the top hog-producing province (9% of the country's total). It seems that this new wave of outbreaks is impacting small farmers who had relaxed prevention measures. Local analysts estimate losses at around 10 - 15 % of the herd. The Sichuan Provincial Department of Agriculture and Rural Affairs did not respond to a request for comment.

According to official records, from the beginning of 2021, only 11 ASF outbreaks were reported from eight provinces so far, with a total of 2,216 pigs destroyed across Guangdong, Hubei, Hunan, Sichuan, and Yunnan Provinces and Inner Mongolia and Xinjiang Uygur Autonomous Regions. In the case of Sichuan, China's Ministry of Agriculture and Rural Affairs reported two cases of swine fever in the province in March, one in the east in Huaying city and another in the far west.

Later, on July 20, MARA reported the detection of ASF in piglets being illegally transported from another province to Sichuan province.

Following the plan presented last April to establish ASF-free zones within five regions, by July 30, a total of 62 ASF-free areas have been set up throughout the country.

Research highlights

Novel Morbillivirus as Putative Cause of Fetal Death and Encephalitis among Swine

Follow this [LINK](#) to access the full article.

Morbilliviruses are **highly contagious pathogens**. The Morbillivirus genus includes the measles virus, canine distemper virus (CDV), peste des petits ruminants virus, and rinderpest virus. The authors detected a novel porcine morbillivirus (PoMV) as a putative cause of fetal death, encephalitis, and placentitis among swine.

Background

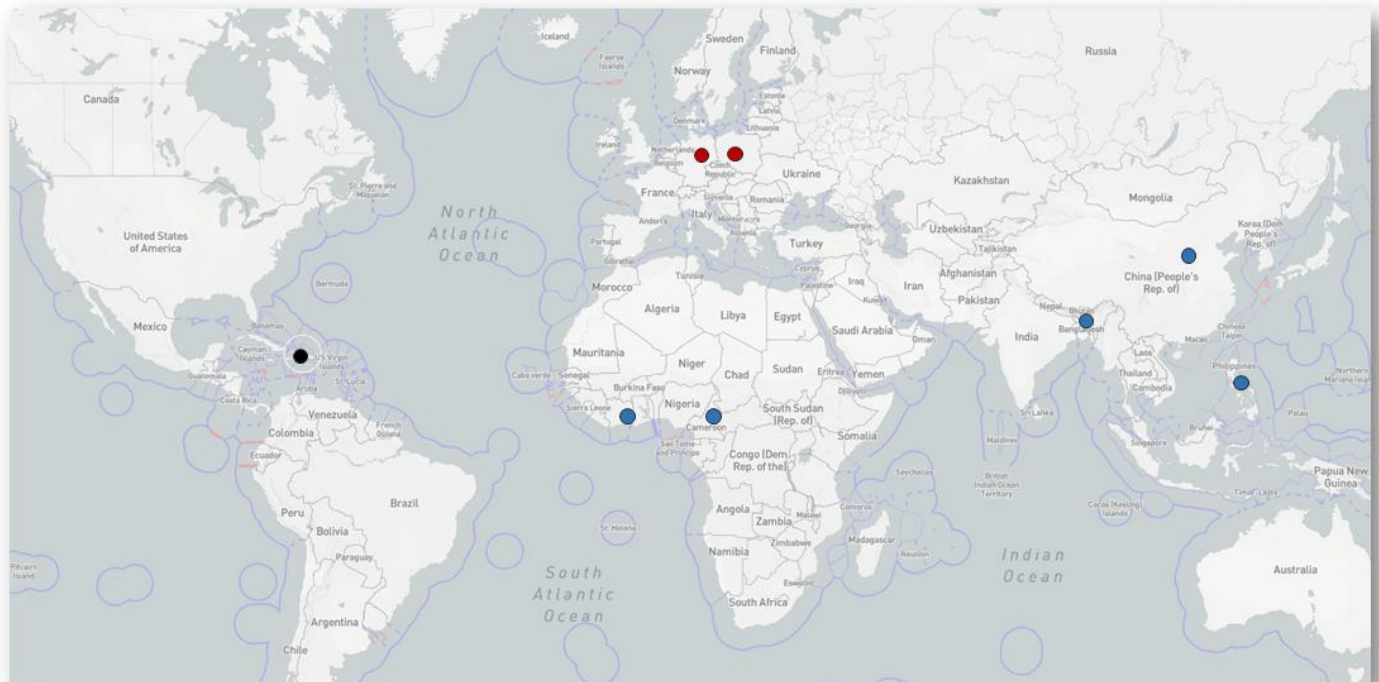
In early 2020, the Iowa State University Veterinary Diagnostic Laboratory (Ames) received 22 porcine fetuses from six litters originating from a commercial breeding herd in northern Mexico for routine diagnostic investigation. The breeding herd consisted of 2,000 sows and reported reproductive clinical signs characterized by an increased percentage (18% reported) of mummified fetuses and stillbirths.

Results

Phylogenetic analyses showed PoMV is most closely related to CDV (62.9% nucleotide identity). Intracellular inclusions in neurons and glial cells of swine fetuses with encephalitis were observed, which shows a cellular tropism is similar to other morbilliviruses. PoMV viral RNA was detected in neurons, respiratory epithelium, and lymphocytes.

This study provides fundamental knowledge concerning the pathology, genome composition, transmission, and cellular tropism of a novel pathogen within the genus Morbillivirus.

The geographic distribution and species susceptibility of PoMV currently are unknown.



Map 4. Location of the outbreaks reported throughout December. 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

References:

Recurrent reports reviewed and included

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OIE - [OIE Asia Regional office](#)

DEFRA - [Animal diseases international monitoring reports](#)

CAHSS - [CEZD Weekly Intelligence Report](#)

European commission - [ADNS disease overview](#)

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Dominican Republic -

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China -

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India -

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Research Highlight -

Arruda B, Shen H, Zheng Y, Li G. Novel Morbillivirus as Putative Cause of Fetal Death and Encephalitis among Swine. *Emerg Infect Dis.* 2021;27(7):1858-1866. <https://doi.org/10.3201/eid2707.203971>

The GSDMR team compiles information drawn from multiple national (Ministries of Agriculture or Livestock, Local governments, and international sources (FAO, OIE, DEFRA, EC, etc.), as well as peer-reviewed scientific articles. The team makes every effort to ensure but does not guarantee, accuracy, completeness, or authenticity of the information. The designation employed and the presentation of material on maps and graphics do not imply the expression of any opinion whatsoever on the part of the GSDMR team concerning the legal or constitutional status of any country, territory, or sea area or concerning the delimitation of frontiers.

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