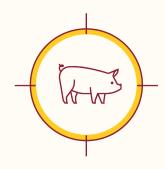


Swine Disease Global Surveillance Report

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 generated through a systematic process that involves screening various official data sources, including government and international organization websites, as well as softer sources such as blogs, newspapers, and unstructured electronic information from around the world. These data are then curated to create a raw repository.

Subsequently, a multi-criteria rubric is applied to evaluate each event. This rubric assesses factors like novelty and the potential direct and indirect financial impacts on the US market. The outcome of this rubric application is a final score assigned to each event.

These final scores, along with an epidemiological interpretation of the event's context, are published.

The interpretation encompasses details like the credibility of the information, the scale and speed of the outbreak, its connectedness to other factors, and the local capacity to respond.

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.



CENTER FOR ANIMAL HEALTH AND FOOD SAFETY

University of Minnesota

University of Minnesota Technical Coordination

Valeriia Yustyniuk, Sylvester Ochwo, Sol Perez¹

Expert Focus group

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

¹ Project coordinator. E-mail: <u>mperezag@umn.edu</u>

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SPONTANEOUS REPORTING TOOL



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Swine Disease Global Surveillance Report

Tuesday, September 3, 2024, to Monday, September 30, 2024

Report Highlights

- African Swine Fever in Italy: Since the first introduction of ASF in 2022, the pig population in the most affected areas has dropped significantly, causing estimated losses of over USD 130 million.
- Sardinia's official ASF-free status: In September, the European Commission officially recognized Sardinia as free from ASF genotype I different from genotype II, currently circulating in continental Italy and across many European and Asian countries.
- **Sweden free of ASF**: The European Commission officially recognized Sweden as free from ASF a year after the disease was first detected in a wild boar.
- The Philippines deploys the ASF vaccine: The first 10,000 vaccinations were administered on backyard farms AVAC, a Vietnam-based company, is the vaccine provider.
- ASF in Russia: Detection of the first recombinant ASF virus (genotypes I and II) in domestic pigs.

Surveillance at Point of Entry

- The UK → has introduced immediate measures to safeguard against ASF. Personal imports of pork products will be banned starting September 27, 2024.
- France → Farmers' unions are demanding the mass culling of wild boar along the French-German border to prevent the spread of ASF into France. With the virus detected 50 miles from the border, they urge for a "white zone" where all wild boar are eliminated.





OCTOBER 2024 - OUTBREAKS BRIEF

R	Location	Report Date	Dx	Impact
2	Northern region (Lombardy, Piedmont, Emilia Romagna), Italy	8/30	ASF	24 farms affected - over 41,000 pigs culled
2	Active outbreaks across seven administrative regions, Vietnam	Sept	ASF	No data on case numbers or deaths was included in the report - since the beginning of 2024, Vietnam has seen 1,005 outbreaks of ASF in 46 provinces.
1	Gelephu, Bhutan	9/3	ASF	Backyard farm affected - over 80 pigs affected
1	Multiple regions (Riau, Kalimantan Timur and Sulawesi Barat), Indonesia	9/12	ASF	Over 700 pigs affected.
1	Humansdorp, East London, South Africa	9/13	FMD	Confirmed cases in 34 farms previously vaccinated.
1	Vietnam	8/19	Influenza A (H1N1)v	First reported human infection of swine-origin influenza A(H1N1)v

Outbreaks described in the table above are colored according to an assigned significance score. The score is based on the identified hazard and potential 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.



African Swine Fever

EUROPE

In September (08/29/2024 - 09/25/2024), **six European countries** (Italy, Moldova, Poland, Romania, Serbia, and Ukraine) reported 47 outbreaks in domestic pigs through EU ADIS, demonstrating a significant (4.7 times) decline in the number of outbreaks compared to the previous month (n=219). Despite a decrease in outbreaks, over 41,000 pigs were culled in northern Italy during the summer due to ASF. The distribution of ASF outbreaks is shown in Figure 1.

During the same period, **10 European countries** (Bulgaria, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Romania, and Slovakia) **reported 342 outbreaks in the wild boar population** - 1.5 times decline compared to the previous month (n=512). As in the last month, the majority of outbreaks occurred in Poland (n=106), Germany (n=96), and Latvia (n=55). Sweden was officially recognized as free of ASF by the European Commission.

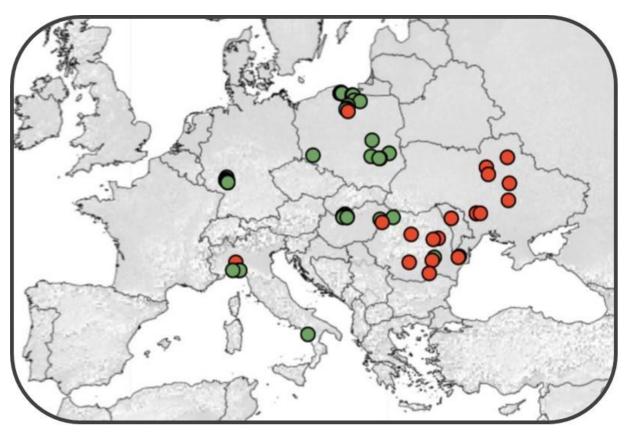


Figure 1. The distribution of African swine fever outbreaks in Europe (in red: domestic pigs; in green: wild boar) from August 29, 2024, to September 25, 2024. (Source: FAO EMPRES-i).

Regional Highlights

• Italy | August 30: ASF continues to affect northern Italy, with 24 pig farms infected, leading to the culling of tens of thousands of pigs. There are 18 outbreaks in Lombardy, five in Piedmont, and one in Emilia Romagna, but the exact numbers of affected animals are unclear due to limited official updates. Reports indicate that over 41,000 pigs were culled during the summer. ASF in Italy originated in wild boar populations, with genotype II first



detected in January 2022. Italy's agribusiness association, Confagricoltura, estimates that since then, pig farmers have faced nearly \$45 million (€40 million) in direct losses and \$84 million (€75 million) in indirect losses. The virus now affects five regions, with Lombardy, particularly Pavia, hit hardest. In Pavia, the pig population dropped from 230,000 to 100,000. Strict regulations and restrictions have been implemented to curb further spread, but farmers face ongoing challenges with overcrowding, lack of reimbursements, and wild boar management. The distribution of affected pig farms is presented in Figure 2.



Figure 2. Location of pig farms affected by ASF in Italy (red circles - ASF outbreaks in 2024, gray circles - ASF outbreaks in 2022-2023, in purple - the margins of Lombardy-Piemonte-Liguria region) (Source: ASF Farms Italy)

Meanwhile, on September 24, the European Commission officially recognized Sardinia as free from ASF genotype I, following a successful eradication campaign that began after the disease was first detected on the island in 1978. Genotype I is considered endemic in Africa and differs from genotype II, currently circulating in Europe. Sardinian authorities praised the collaborative efforts of farmers, local communities, and law enforcement in achieving this milestone. The eradication strategy involved strict surveillance, biosecurity measures, and training for breeders and hunters. Officials emphasize the importance of continued vigilance to prevent a resurgence of the disease, especially as ASF remains a significant threat in other regions of Italy and Europe.

• The United Kingdom | September 6: Defra ministers aim to negotiate a new veterinary deal with the EU to reduce food trade costs and bureaucracy. Defra ministers aim to negotiate a new veterinary deal with the EU to reduce food trade costs and bureaucracy. Post-Brexit, UK pig exports face high costs due to export health certificates (EHCs) and border inspections, costing the industry hundreds of millions. A new agreement could remove these barriers by aligning regulations, similar to the Swiss-EU model. This could benefit the UK in case of an ASF outbreak, allowing exports from unaffected areas. However, there are



concerns about biosecurity risks and the potential for ASF-infected imports. Negotiations will be complex and take time but may significantly boost trade and reduce costs.

- France | September 12: French farmers' unions are demanding the mass culling of wild boar along the French-German border to prevent the spread of ASF into France. With the virus detected 50 miles (78 kilometers) from the border, they urge for a "white zone" where all wild boar are eliminated, along with increased biosecurity audits of pig farms in the region. Farms lacking adequate preventive measures should cease operations to mitigate infection risk.
- Sweden | September 24: the European Commission officially recognized Sweden as free from ASF, a year after the disease was first detected in a wild boar in Västmanland county. The country reported its first ASF case on September 6, 2023, involving a wild boar near Fagersta, approximately 90 miles (150 km) northwest of Stockholm. In response, a comprehensive campaign was initiated, costing nearly \$11 million (€10 million). Authorities identified 70 infected wild boars in the region and euthanized 116 to prevent further spread. As of late September 2023, no additional infected wild boars have been reported. No farms were affected. With this declaration, Swedish authorities are set to lift the infection zone and all remaining restrictions.

ASIA

In September, six countries (Bhutan, India, Indonesia, the Philippines, South Korea, and Vietnam) reported ASF outbreaks in domestic pigs. Figure 3 presents the distribution of new outbreaks in the region.

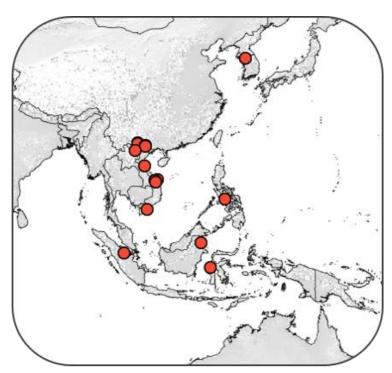


Figure 3. ASF outbreak distribution in domestic pigs in Asia (August 29 to September 29, 2024). (In red: domestic pigs) (Source: FAO EMPRES-i—Data sources: Republic of Korea, Vietnam: WAHIS and media information, The Philippines: WAHIS and government websites, Indonesia: official database isikhnas.)

Regional Highlights



India | August 30: ASF was detected in Thizama village in the Kohima district of Nagaland state. Government officials designated a 1 km radius around the village as an infected zone and a surveillance zone covering an additional 9 km outside the infected zone. They also banned animal transport to slaughter and pigs' importation and exportation (no information was made available regarding pork products).

ASF continues to cause financial devastation in Mizoram, as 10,050 pigs have died and 18,300 pigs have been culled since February, although the Mizoram Animal Husbandry and Veterinary Department has reported that ASF-related pig mortalities have reduced recently. Financial losses in Mizoram are estimated between USD \$2.75 and \$3.0 million.

South Korea | August 31: South Korea reports an ASF outbreak at a farm in Gyeonggi province. Government officials implemented emergency quarantine measures to prevent the spread of ASF from the infected farm, including testing and monitoring vehicles entering and leaving the farm.

Approximately 400 pig farms in the surrounding area are also undergoing disinfection procedures. Government officials intend to monitor pigs more closely as they travel from farms in Gyeonggi province to other farms and slaughterhouses. Traveling for a national holiday in mid-September was expected to increase the risk of spreading ASF further, and the Agriculture Ministry urged regional governments to ensure adequate disinfection efforts. Ministry officials also emphasized that the infected farm's susceptible population comprised only a small relative number of pigs and would have a minimal effect on the local market.

The Philippines | September 2: Department of Agriculture OKs movement of ASFnegative hogs from red zones. Under new guidance from the Department of Agriculture, pigs from farms outside a 500 meter radius of an infected premises but within a 1 km radius of the infected premises may be moved within the city or municipality. Live pigs within the red (infected) zone but outside a 1 km radius of an infected premises may be transported across all zones for slaughter. Live pigs from infected premises or within 500 meters of an infected premises are not allowed to be transported. Pigs from red zones must be transported directly to the destination and cannot be unloaded or reloaded during transit.

Government-led vaccination effort in the Philippines

The Philippine government initiated a vaccination program in late August to early September, beginning in Lobo, Batangas (highlighted in blue). The next phase will extend the program to additional provinces nationwide (yellow) (Figure. 4). The first pigs included were limited to backyard farms. Still, the following phases will include commercial farms as well. To qualify for the government vaccination effort, pigs must be healthy and test negative for ASF, and the farm must have good biosecurity. The program's first phase started with 10,000 doses;

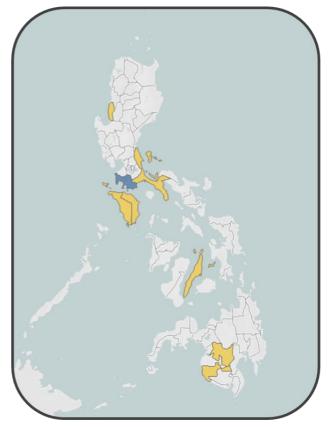


Figure 4: ASF vaccination campaign coverage in the Philippines: current phase (highlighted in blue) and upcoming phase (highlighted in yellow)





ultimately, the government plans to purchase 600,000 doses of the vaccine from Vietnam. The vaccines are provided free of charge to farmers.

AVAC, a Vietnam-based company, produces the live-attenuated vaccine. It is a single-dose vaccine with a reported 5-month protection period.

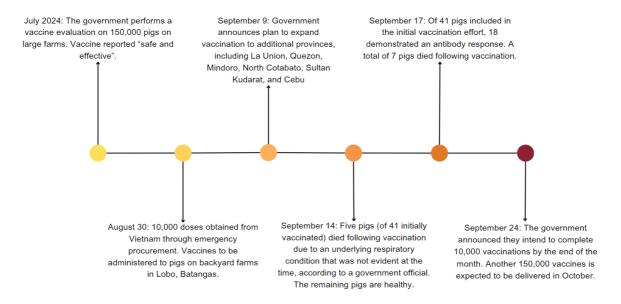


Figure 5: Timeline of the Philippine government ASFV vaccination program to date, detailing key milestones and phases in the rollout process.

Other vaccine manufacturers from the U.S., South Korea, and Vietnam are also applying with the Food and Drug Administration in the Philippines to be part of the controlled testing of the ASF vaccine

Things to consider

WOAH recommends using vaccines "with proven efficacy and safety, and which have been subject to regulatory evaluation and approval in accordance with WOAH international standards." They also issued a warning against using "non-compliant and poor quality vaccines," stating that they may not provide adequate protection and may contribute to the spread of ASF through vaccine strains of the virus, which may recombine with field strains to generate novel viral strains.

Bhutan | September 3: Bhutan reports an ASF outbreak to WAHIS. In August, an outbreak in backyard pigs in Gelephu, in the Sarpang district, was noted. Twenty-six pigs died, and 56 were culled. The event is listed as ongoing.

Vietnam | September 8-13: Outbreaks in seven administrative regions. According to EMPRES-i, outbreaks were reported in the following administrative areas in September: three outbreaks occurred in Ha Giang, two in Bac Kan, two in Quang Nam, and one each in Son La, Ha Tinh, Tra Mai, and Duyen Hai. No data on case numbers or deaths was included in the reports.

On September 25, an outbreak was reported in two households in Nhon Son commune, Ninh Thuan province. The households reported that out of 65 pigs, 52 died from ASF, two were sick and culled, and the remaining 11 were healthy and being monitored. The provincial government has





implemented quarantine measures and is destroying sick and ASF-positive pigs. Monitoring in nearby areas that have not had an outbreak has also been increased.

On September 26, Lang Son Province reported ASF was nearly controlled. The Director of the Department of Animal Husbandry and Veterinary Medicine stated that ASF infections have decreased dramatically, with 88% of outbreaks controlled for at least 21 days with no recurrence. Since last May, the province had over 200 outbreaks, and over 16,000 pigs either died or were culled. The provincial government established inspection teams, increased technical staff to support disease prevention, and distributed over 22,000 liters of disinfectant and personal protective equipment. They also organized mass vaccination, and over 60,000 pigs have been vaccinated.

According to the Ministry of Agriculture and Rural Development, since the beginning of 2024, Vietnam has seen 1,005 outbreaks of ASF in 46 provinces, and 63,623 pigs have been culled.

Indonesia | September 12: Outbreaks in three administrative regions. Indonesia reported outbreaks in Riau, Kalimantan Timur, and Sulawesi Barat. The number of cases reported were 120, 513, and 45 pigs, respectively.

AFRICA

In September, no new outbreaks of ASF were reported in Africa; however, South Africa reported updates on two ongoing outbreaks. One outbreak is located in Bitou, in the Western Cape; this outbreak started on August 30. Out of 40 susceptible pigs, 25 cases have been reported, and 24 have died. No pigs were reported culled. *This outbreak is part of a larger disease event that began in February 2021, with 58 total outbreaks, seven of which are ongoing.*

The other outbreak started on August 16, in Randfontein, Gauteng province. The number of susceptible pigs was not reported; 11 cases were reported, all of which died. *This outbreak is also part of a larger disease event that started in April 2019, with 200 total outbreaks, at least 10 of which have not been reported as resolved.*

Surveillance at Point of Entry

The United Kingdom | September 27: The UK has introduced immediate measures to safeguard against ASF, focusing on preventing the spread of the disease through personal imports of pork and pork products from the European Economic Area, the Faroe Islands, Greenland, and Switzerland. Starting September 27, personal imports of pork products will be banned unless they meet EU commercial standards and weigh under 2kg. ASF is a highly contagious and deadly disease in pigs and wild boar, though it poses no risk to human health.

The UK's Department for Environment, Food and Rural Affairs (Defra) has prioritized biosecurity to protect the country's \$10.7 billion (£8 billion) pig industry and its over \$800 million (£600 million) in annual pork exports. Enhanced border surveillance, particularly at Dover, is a key component of the strategy, with commercial meat imports being routinely checked to prevent the introduction of ASF. Defra has allocated \$4.1 million (£3.1 million) to Dover Port Health Authority for 2024/25 to support Border Force in tackling illegal meat imports.





For illegal imports, fines of up to \$6,689 (£5,000) will be imposed, and products will be seized and destroyed upon arrival. This initiative underscores the UK's continued efforts to prevent ASF incursions and protect its agricultural sector.

First report of the recombinant ASF virus (genotypes I and II) in Russia

Since 2007, ASF has circulated in Europe and Asia, primarily involving genotype II. However, in 2021, genotype I was reported in China, followed by a recombinant virus (genotype I and II) detection in 2023. And later also reported in Vietnam.

A study analyzed an ASF virus isolate from a domestic pig in Russia's Primorsky Region. Sequencing showed that this isolate clustered into both genotypes I and II. The whole-genome sequence showed that the Russian isolate shared a 99.99% identity with recombinant isolates described earlier in China. Experimental pigs infected with the virus developed acute ASF and died within seven days, confirming its virulence.

This study marks the first report of recombinant ASFV in Russia, highlighting the disease's transboundary spread. Continuous molecular monitoring is crucial to detect and respond to these field strains and to understand their behavior.

Access to the article through this LINK

Foot-and-Mouth Disease

South Africa | September 13: Thirty-four farms in the Humansdorp and East London areas have been confirmed positive for FMD and have received vaccinations. The Minister of Agriculture has raised concerns about persistent clinical signs on previously infected or vaccinated farms within the Disease Management Area (DMA), indicating ongoing virus circulation and a high risk of spread.

Clinical signs have also been reported on two farms bordering the DMA, emphasizing the need for strict biosecurity measures and adherence to movement restrictions. An additional 36 farms have been pre-emptively vaccinated to reduce potential clinical severity. Since the outbreak began in May, 96,906 cattle and 635 sheep have been vaccinated in the Eastern Cape, with over 12,000 animals receiving a second vaccination due to virus flare-ups. To help manage the situation, the Director of Animal Health has designated two abattoirs for the controlled slaughter of cloven-hoofed animals from quarantined farms, with four farms already authorized for this process. Thus far, 56 cattle have been slaughtered in Humansdorp and 40 in East London. Controlled slaughter ensures proper processing and disposal of FMD risk materials, with meat from quarantined farms remaining safe for human consumption but ineligible for export due to certification limitations.

27th WOAH Sub-Commission Meeting on Foot-and-Mouth Disease for South-East Asia, China, and Mongolia: Addressing Regional Challenges and Strengthening Collaboration

In September, the WOAH SEACFMD campaign held its 27th meeting. This campaign includes 10 countries in Southeast Asia, as well as China and Mongolia. The meeting discussed advances on control and eradication of FMD in participating countries since 2020, and outlined the future directions and goals of the campaign. Overall, participating countries reported fewer outbreaks in 2023 over 2020, but also fully investigated a smaller percentage of outbreaks (including decreased virus characterization); more participating countries signed trade agreements to facilitate legal movement of livestock; and more vaccination targets were achieved in 2023 over 2021. A critical issue raised pertains to the need for vaccines to target strains currently circulating. Figures 6 and 7 provide an overview of the FMD serotypes and the valencies of vaccines used across the participating countries.

Critical gaps identified in the campaign so far include: inadequate commitment by participating governments, inadequate surveillance, poor access to quality vaccines, weak biosecurity at the





regional level, insufficient capacity for response to outbreaks of FMD and other transboundary animal diseases, and inadequate participation of the private sector. Goals for improvement of FMD control include enhancing laboratory capacity for diagnosis, improving access to quality vaccines, facilitating legal movement of livestock, and increasing biosecurity at the national and regional levels.

Viral characterization is an important part of outbreak investigations; it can help researchers understand the spread of the disease, and can help veterinarians and producers choose vaccines that are appropriate for the serotypes found in their region.

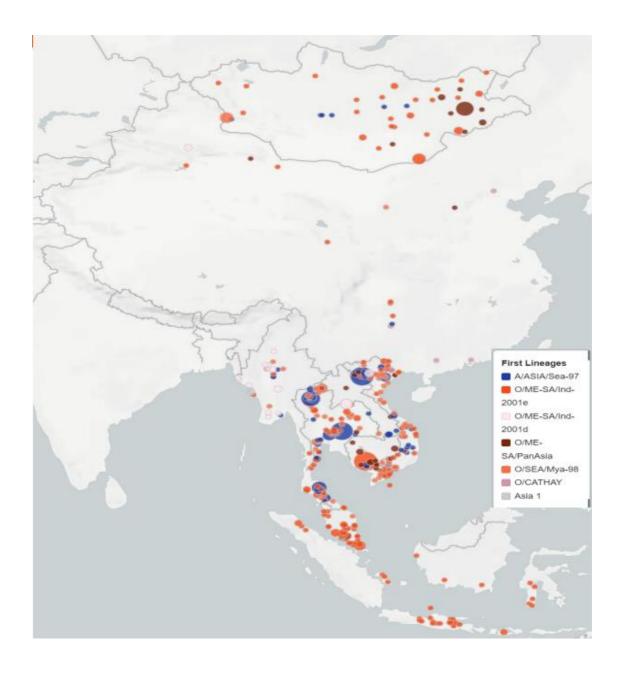




Figure 6: Reported serotypes of FMD virus in participating countries. (Source: WOAH 27th Meeting of the Subcommission for FMD in South-East Asia, China, and Mongolia, conference proceedings: Regional FMD Situations and Risks, by Bolortuya P.)

The long-distance movement of livestock complicates FMD control. The serotypes, or strains, of FMD virus circulating in one region may be different from those circulating in another region; introducing a new serotype to a region that does not vaccinate against the new subtype can result in poor vaccine efficacy and outbreaks of FMD. Figure 8 illustrates the global distribution of various FMD serotypes.

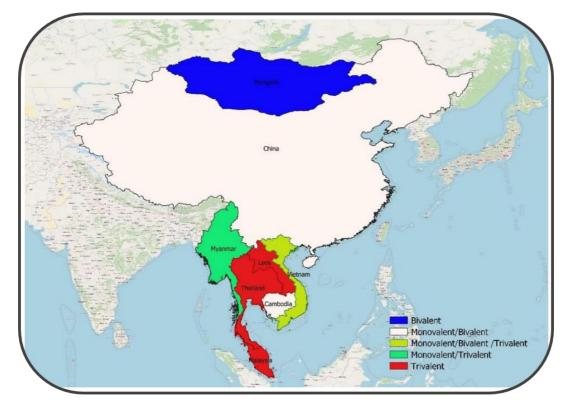


Figure 7: Valency of vaccines used in SEACFMD participating countries. (Source: WOAH 27th Meeting of the Subcommission for FMD in South-East Asia, China, and Mongolia, conference proceedings: FMD vaccination and access to quality FMD vaccines, by Rinzin, K., and Renaudin, S.)



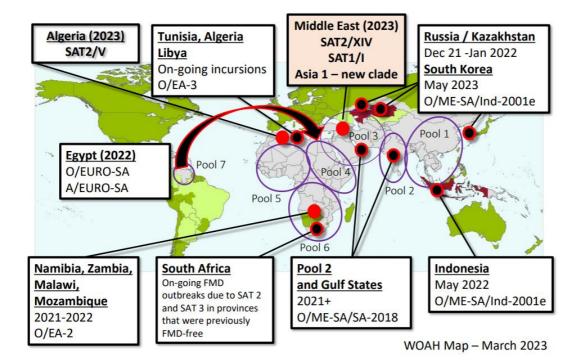


Figure 8: Highlights of the movement of FMD virus serotypes throughout the world, 2021-2024. (Source: WOAH 27th Meeting of the Subcommission for FMD in South-East Asia, China, and Mongolia, conference proceedings: The Global FMD Situation and Risks, by King, D., and Ludi, A.)

New Vaccine Trial Aims to Combat Streptococcus suis in UK Pig Industry

A new government-funded project in the UK will trial a vaccine for *Streptococcus suis*, a bacterial infection found in all major swine-raising countries, including the United States. Affecting over 60% of pig farms in Europe, it poses risk not only to the industry, but also to public health. The vaccine aims to protect pigs against multiple strains, reduce antibiotic use, and prevent transmission to humans, with the potential to improve pork production efficiency and sustainability. The project brings together experts from The Vaccine Group, the University of Plymouth, and the University of Cambridge, supported by a \$1.3 million (£1 million) grant from Defra's Farming Innovation Programme.

First Reported Human Infection of Swine-Origin Influenza A(H1N1)v in Vietnam: Case Overview and Public Health Response

On August 19, Vietnam's National Focal Point (NFP) for International Health Regulations (IHR) notified the World Health Organization of the first human case of infection with a swine-origin influenza A(H1N1) variant virus in Son La province, a region bordering the Lao People's Democratic Republic. The case involved a 70-year-old woman who developed pneumonia and succumbed to the illness on June 11, 2024. Laboratory tests confirmed the presence of the A(H1N1)v virus in August 2024.

Epidemiological investigations revealed no respiratory symptoms among her contacts, and there were no reports of disease outbreaks among livestock. The source of exposure to the virus remains unknown, as no local outbreaks among pigs have been identified.

The WHO assesses the current risk to the general population as low but emphasizes the importance of global surveillance to monitor and detect changes in influenza viruses. The Vietnamese health authorities have enhanced surveillance, coordinated human-animal health investigations, and conducted contact tracing to contain the outbreak. The case underscores the need for ongoing





vigilance, especially regarding the potential for zoonotic transmission of novel influenza viruses, though there is currently no sustained human-to-human transmission reported.

The WHO does not recommend travel or trade restrictions for Vietnam but advises travelers to practice good hygiene, avoid contact with sick animals, and follow food safety measures. Vaccines against human influenza are unlikely to protect against swine-origin viruses.

Fact sheet

- The H1N1 virus was first isolated from pigs in the 1930s.
- The 2009 H1N1 virus was a combination of genes from human, bird, and swine flu viruses.
- The 2009 H1N1 pandemic was the first flu pandemic in over 40 years. It caused high levels
 of infections in the summer in the northern hemisphere, and then higher levels of activity
 during the cooler months.

References:

Recurrent reports reviewed

WOAH - WAHIS interface - Immediate notifications

WOAH - WOAH Asia Regional office

FAO - ASF situation update in Asia & Pacific

DEFRA - <u>Animal conditions international</u>

monitoring reports

CAHSS - CEZD Weekly Intelligence Report

European Commission - ADIS disease overview

EUROPE

Italy

ASF Italy: Northern Italy culls tens of thousands of pigs

Swine fever: 24 outbreaks, 'complex situation, caution'

Prosciutto in peril as Italy struggles to contain swine fever

Swine fever: confirmation from the EU, Sardinia has eradicated the disease

UK

What a new veterinary agreement with the EU could mean for the UK pig sector

New vaccine could be a "game changer" for UK pig industry

<u>UK takes immediate measures to safeguard</u> against African swine fever from Europe

France

French want culling of all wild boars near border

Sweden

<u>Sardinia and Sweden recognised as free of</u> African Swine Fever

Sweden applies to be declared free of African swine fever

ASIA

WOAH 27th Meeting of the Sub-Commission for FMD in South-East Asia, China, and Mongolia

Bhutan

Outbreak in Bhutan

India

Outbreak in Kohima

South Korea

Outbreak Response in South Korea
Outbreak in Gyeonggi Province

The Philippines

<u>Department of Agriculture OKs movement out of</u> red zones

Philippines begins vaccination program

Philippines expands vaccine administration to more regions

5000 more hogs to be vaccinated

ASF vaccines appears safe for now

18 out of 41 hogs develop antibodies

Government plans to buy 600k doses of

vaccines

PBBM wants faster rollout of ASF vaccines

Global Market Report - ASF vaccines

WOAH ASF Vaccine Statement

Vietnam

Ninh Thuan announces ASF

Ninh Thuan urgently controls ASF

Lang Son: ASF is basically under control

Influenza A(H1N1) variant virus - Viet Nam

AFRICA

South Africa

UPDATE ON OUTBREAK OF FOOT AND MOUTH DISEASE IN EASTERN CAPE PROVINCE





Abbreviations:

ASF - African swine fever

CSF - Classical swine fever

FMD - Foot-and-mouth disease

PRRS - Porcine reproductive and respiratory

syndrome

SVV - Seneca Valley Virus

CCHF - Crimean-Congo hemorrhagic fever

PPV - Porcine parvoviral infection

WOAH - The World Organisation for Animal

EFSA - The European Food Safety Authority

PDCoV - Porcine Deltacoronavirus

The GSDMR team compiles information drawn from multiple national (Ministries of Agriculture or Livestock, Local governments, and international sources (WOAH, FAO, DEFRA, EC, etc.), as well as peer-reviewed scientific articles. The team makes every effort to ensure but does not guarantee the 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.

Any inquiries regarding this publication should be sent to us at SwineGlobal@umn.edu