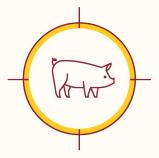


CENTER FOR ANIMAL HEALTH AND FOOD SAFETY

UNIVERSITY OF MINNESOTA

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

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Swine Disease Global Surveillance Report

Wednesday, December 4, 2024, to Monday, January 6, 2025

Report Highlights

- African Swine Fever in Poland: The disease remains prevalent, with 44 outbreaks reported in domestic pig herds in 2024—14 more than in 2023 and 30 more than in 2022.
- African Swine Fever in Sri Lanka: Authorities have confirmed the presence of the disease to WOAH, with 135 outbreaks reported since the initial case on October 25.
- **PRRSv "Rosalía" strain in Spain**: Studies report promising results in reducing mortality, improving productivity, and lowering production costs.

Surveillance at Point of Entry

• **UK**: Dover Port Health Authority (DPHA) seized over six tonnes of illegal meat, including pork, from ASF-affected regions in Romania during a 14-hour operation.

OUTBREAKS BRIEF

R	Location	Date	Dx	Impact
		Date		
2	Near Koblenz, Germany	12/2	ASF	Positive wild boar carcass found outside the core infection zone
2	Multiple locations across the country, Poland	Dec	ASF	Surge of outbreaks - more than 360 outbreaks affecting 500 wild boars
2	Multiple locations, Sri Lanka	2/2	ASF	132 outbreaks reported since 10/25/2024
2	Multiple locations, Vietnam	Dec	ASF	17 new outbreaks (numbers of affected animals not yet reported)
1	Lezha, Albania	11/29	ASF	Ten pigs were affected
1	Seria, Malaysia	12/11	ASF	Two farms affected
1	Mizoram, India	12/12	ASF	33 new cases
1	Yangju, South Korea	12/17	ASF	5500 pigs at risk
1	Nabire regency in Papua, Indonesia	12/26	ASF	Number of affected animals has not yet been reported
1	Pradesh, Nepal	12/24	ASF	667 pigs affected

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 December (11/28/2024 - 01/01/2025), **six European countries** (Albania, Moldova, North Macedonia, Romania, Serbia, and Ukraine) **reported 36 outbreaks in domestic pigs** through EU ADIS. This number remained consistent with the previous month's report of 40 outbreaks. As in prior months, most cases were reported in Romania (n=22) and Serbia (n=9). A detailed distribution of the ASF outbreaks is presented in Figure 1.

While the number of ASF outbreaks in domestic pigs has remained relatively stable, there has been an increase in cases among wild boar. During the same reporting period, **15 European countries** (Bosnia and Herzegovina, Bulgaria, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, North Macedonia, Poland, Romania, Serbia, Slovakia, and Ukraine) **reported a total of 1,187 outbreaks in wild boar populations**. This represents a 1.3-fold increase compared to the previous month's 905 cases. Consistent with the prior month, the majority of outbreaks were reported in Poland (n=405), Bulgaria (n=224), and Germany (n=221).

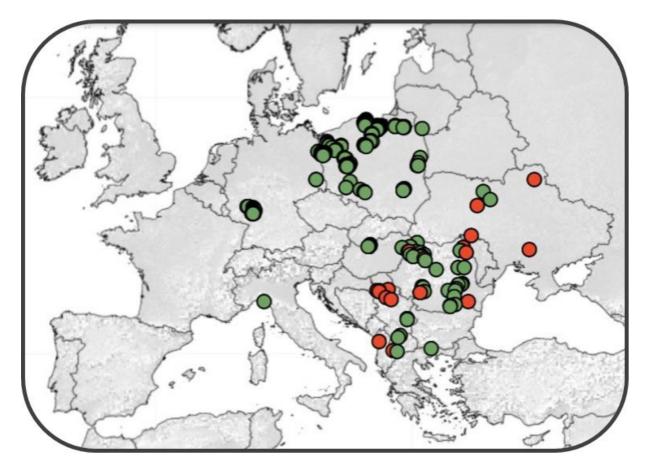


Figure 1. The distribution of African swine fever outbreaks in Europe from November 28, 2024, to January 1, 2025 (in red: domestic pigs; in green: wild boar; Source: FAO <u>EMPRES-i</u>).





Regional Highlights

- Albania | November 29: An outbreak confirmed in Mali of Rrenci, Lezha, resulting in the death of at least 10 pigs—five on a farm and five in a nearby forested area. This marks the third ASF case in Albania this year, following incidents in Has and Kukës.
- Germany | December 2: A wild boar carcass tested positive near Koblenz, about 37-50 miles (60-80 km) northwest of the core infection zone. The carcass likely drifted along the Rhine from the core zone, and extensive searches using drones and dogs have not uncovered further infected wild boar. Consequently, no new core zones have been established.

In Hesse state, ASF cases surged to 483 wild boars, including an outbreak at a wildlife zoo leading to the euthanasia of 24 animals.

Since 2020, ASF has affected 19 farms or captive sites, with over 6,373 infected wild boar reported nationwide as of December 1, 2024. The situation remains dynamic, especially in western Germany. The distribution of outbreaks is presented in Figure 2.

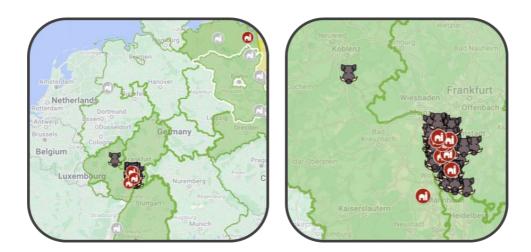


Figure 2. Location of wild boar and pig farms affected by ASF in Germany (grey circle - affected farm in 2021-2023; red circles - affected farms in 2024; boar head - wild boar) (Source: <u>ASF infected pig farms</u> <u>Germany/Poland, 2014-2024</u>)

- Ukraine | January 3: The import of meat products from multiple EU countries was limited due to the ASF outbreaks. The ban applies to products from ASF-affected zones in 12 countries, including Poland, Germany, and Italy, in line with EU zoning regulations. It covers live pigs, genetic material, and meat from areas with recent ASF cases or within a 10 km radius of outbreaks but excludes products processed to eliminate the virus.
- Poland | January 6: ASF remains widespread in Poland, with 44 domestic pig herd outbreaks reported in 2024—14 more than in 2023 and 30 more than in 2022—indicating a steady increase over the past two years. In wild boars, 2,265 outbreaks were reported across 13 voivodeships (provences), though this is 420 fewer than in 2023. Recent weeks saw a surge of nearly 360 outbreaks affecting 500 wild boars, with most cases in Pomerania and new detections in Greater Poland, Warmia-





Masuria, and Kujawsko-Pomorskie. These figures may be adjusted as final data for 2024 becomes available. The distribution of affected farms is presented in Figure 3.



Figure 3. Distribution of pig farms affected by ASF in Poland (grey circle - affected farm in 2014-2023; red circles - affected farms in 2024 (Source: <u>ASF infected pig farms Germany/Poland, 2014-2024</u>)

Since ASF first emerged in Poland in 2014, the virus has significantly impacted wild boar populations and domestic herds. To date, 552 farms, ranging from small-scale operations to large commercial facilities, have been affected. One of the major outbreaks occurred in September 2024 in West Pomerania, where a large farm near Kolki, about 80 km from the German border, housing 11,071 animals, had to be depopulated due to ASF.

ASIA

In December, eight countries (India, Indonesia, Malaysia, Nepal, the Philippines, South Korea, Sri Lanka, and Vietnam) reported ASF outbreaks in domestic pigs. South Korea reported new outbreaks in wild boar. The distribution of new outbreaks in the region is presented in Figure 4.





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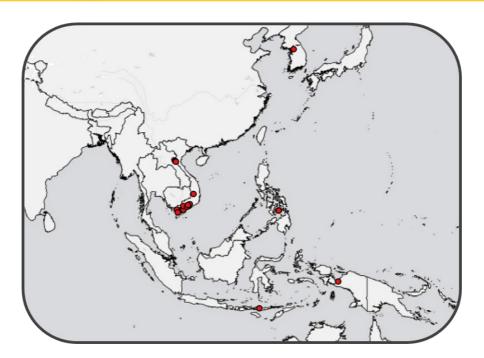


Figure 4. The distribution of ASF outbreaks in Asia from December 4, 2024, to January 6, 2025 (In red: domestic pigs. Source: FAO EMPRES-i—Data sources: Republic of Korea, Vietnam: WAHIS and media information, The Philippines: WAHIS and government websites, Indonesia: official database isikhnas.)

Regional Highlights

- Malaysia | December 11: An isolated ASF case was confirmed in Serian, and culling measures were taken to control the spread. A case of ASF was reported in the Serian Division on November 29. Control measures were instituted, including culling all pigs on two affected farms. The Veterinary Services Department in the state of Sarawak implemented a ban on live pig transportation without a movement permit, and farmers were asked to increase biosecurity on farms and cook all food scraps before feeding them to pigs. Reports on a pork carcass smuggling syndicate have also been investigated as of November 20; some reports indicated pig carcasses smuggling from Thailand. A member of Parliament urged authorities to intervene to prevent further risks.
- India | December 12: Spike in pig deaths as Mizoram battles ASF resurgence. Mizoram had seen a decline in pig deaths due to ASF until December 12, when 33 pigs died and 26 were culled to prevent further spread. State animal husbandry and veterinary officials blamed the spike on the spread of ASF to large private pig farms in Lungdai and Lungrang South. So far, in 2024 in Mizoram, 14,906 pigs have died, over 24,000 have been culled, and 258 villages have been infected. On December 13, ASF was confirmed in two villages in Kottayam district. All pigs on the affected farms and in the 1 km radius infected zone will be culled. A ban on the movement of feed, pigs, and pork out of the infected area has been instituted, and pigs in the infected zone cannot be sold for slaughter. A 10 km surveillance zone has also been set up.





- South Korea | December 17: The Sejong Agriculture Ministry met to discuss the ASF outbreak. An outbreak of ASF occurred in Yangju on December 15; 5500 pigs were reported as at risk to FAO, but no numbers on deaths or culled pigs were reported. National authorities reported ASF in wild boars, with nine new cases identified in December 2024. As of January 2, 2025, the cumulative number of reported cases is 4,208.
- Indonesia | December 17: ASF spreads across Indonesia. This year, ASF has been detected in 32 of 38 provinces in Indonesia. The government of Indonesia indicated they planned to establish a task force to address the spread of ASF by the end of the year. Officials urged farmers not to throw carcasses in rivers but to utilize lands and incinerators set aside by the government to dispose of pig carcasses. The most recent outbreaks were reported to Empres-i on December 25-26 in the Nabire Regency in the Papua administrative division and Nusa Tenggara Timur in the Nusatenggara Timur administrative division. The number of cases and deaths were not reported for these outbreaks.
- Nepal | December 24: A new outbreak of ASF was reported in Lalitpur, Bagmati Pradesh's administrative division. The outbreak resulted in 667 cases, and 263 reported deaths. According to the WAHIS report, control measures have been instituted, including anteand post-mortem inspections, disinfection, movement control, quarantine, and surveillance.
- Sri Lanka | January 02: Rapid increase in the number of outbreaks. The veterinary authority shared an update on the disease situation with WOAH, and the number of ongoing outbreaks has increased from three to 135 since October 25, 2024. The number of cases in domestic pigs now stands at 27,289 and deaths at 24,909. A severe outbreak is threatening the entire wild boar population, with a potential huge impact on the pork industry. Over 100 wild boars have died, with cases reported in forest areas, including Yala National Park. Wildlife authorities struggle to contain the virus. Initial reports suggest ASF entered through food waste from ships and aircraft, but suspicions now point to an unlawful consignment of pork products in 2023. Authorities are considering eradicating the domestic swine population and remaining pork products to eliminate the virus and restart the industry. The sector, previously unregulated, concealed early pig deaths, exacerbating the crisis. The government plans to appoint a committee to investigate the virus's origin while exploring international assistance to rebuild the pork industry. Additionally, porcine reproductive and respiratory syndrome has been detected in wild boars, raising concerns that actual fatalities may be higher.
- Vietnam | December: Vietnam reported 17 new outbreaks of ASF this month, according to Empres-i. One outbreak was reported in Vinh Long, Dak Lak, and Hau Giang, three in Lai Chau, five in Dong Nai, and six in Nghe An. The number of cases and deaths was not reported to Empres-i.

Foot-and-Mouth Disease

India | December 7: The fifth round of FMD vaccination concludes. In UT Chandigarh, the fifth round of vaccination against FMD concluded on November 30; vaccines were provided at no charge to livestock farmers, and all animals within the city were vaccinated. Over the five vaccine drives, 95,768 vaccines were administered in total.





Philippines | December 18: Philippines halts buffalo meat imports from India due to FMD. The Bureau of Animal Industry suspended the import of buffalo from Bihar, Maharashtra, and Telangana, India, due to FMD outbreaks in those states. The move was made to protect the Philippines' FMD-free status.

Libya | January 5: The Agricultural Police Service reported that 20 sheep have died from FMD in a barn of 200 infected animals in the city of Al-Ajailat, following a citizen's notification to the local Agricultural Police Station.

Porcine Reproductive and Respiratory Syndrome Virus

Vaccination against the highly pathogenic PRRSV "Rosalía" strain in Spain has significantly reduced piglet mortality

The highly pathogenic PRRSV strain Rosalía, present in Spain since 2020, has caused significant economic and productivity losses, including high sow mortality, elevated abortion rates, and piglet mortality reaching 50%. Vaccination with a PRRSV1-modified live vaccine has shown promising results in reducing the impact of this strain.

A laboratory study reported a 57% reduction in clinical symptoms and an 89% reduction in mortality among vaccinated piglets compared to non-vaccinated ones. Field trials confirmed these findings, showing reduced mortality (from 28.3% to 9.9%), improved weight gain, better feed conversion ratios, and reduced production costs, with \$14 (€13.49) savings per pig in one trial.

Vaccinated pigs also exhibited lower viral loads, leading to decreased infection pressure and faster recovery. These outcomes highlight vaccination as a cost-effective and practical strategy to manage PRRSv outbreaks, significantly mitigating health and economic losses for producers. (Link to the <u>Pig</u> <u>Report Note</u>).

Surveillance at Point of Entry

United Kingdom | December 19: Between December 6-7, Dover Port Health Authority (DPHA) seized over six tonnes of illegal meat, including pork, from ASF-affected regions in Romania during a 14-hour operation. This brings the total to more than 147 tonnes of illicit meat intercepted over the past 12 months, despite DPHA operating at only 20% capacity due to budget constraints. The National Pig Association warns that these figures likely represent just a fraction of the illicit meat entering the UK and is urging the government to restore funding for comprehensive border checks to protect the domestic pig industry from ASF.

Progress toward an ASF vaccine for wild boar

Safe and efficacious vaccines for ASF in domestic pigs have been developed recently, and some have been licensed for use in Vietnam. The Philippines and several other countries want to incorporate these vaccines into their ASF control strategies. However, despite this progress, significant challenges remain, such as the need for a commercial test to differentiate infected from vaccinated animals (DIVA), the lack of biosecurity, and the increasing global wild boar population.





Wild boars specifically present a challenge because:

- The wild boar population is increasing, as is its distribution in natural, agroforestry, and even urban environments.
- The expansion of urban areas and the overpopulation of wild boars increase direct and indirect contact between wild boars and domestic pigs due to wild boars' need to find food outside natural areas, causing interaction and conflicts with humans and livestock.
- A considerable number of backyard pig farms are still in contact with wild boar, sharing a habitat and environment.

This may be about to change after researchers from Europe have made significant progress toward the development of an ASFV DIVA vaccine for wild boar. The researchers have developed mutant viruses modified from the ASF Lv17/WB/Rie1 strain, a naturally attenuated Genotype II strain of the ASF virus that has been used as a vaccine prototype for domestic pigs and wild boar. According to the publication, six in vivo studies have been conducted on wild boar to evaluate the vaccine and its effectiveness when combined with a virus challenge under laboratory conditions. These studies lasted three to four months and demonstrated good protection with no observed side effects. An in vivo vaccine and virus challenge study is being run in warthogs in Africa. Additionally, a new study that will involve a larger number of wild boar and extend over a longer duration under controlled conditions is being prepared. This upcoming study will allow for extended observation of the animals and an assessment of the duration of the immune response induced by the vaccine prototype (delta CD), as well as the duration of protection and any potential side effects.

Key publications about ASF oral vaccines in wild boars

- <u>2019</u>: First oral vaccination of Eurasian wild boar against ASF virus genotype II oral immunization of wild boar with a non-hemadsorbing, attenuated ASF virus conferred 92% protection against challenge with a virulent ASF virus isolate.
- <u>2021</u>: Safety of African Swine Fever Vaccine Candidate Lv17/WB/Rie1 in Wild Boar: Overdose and Repeated Doses - the current study aims to evaluate the safety of this vaccine candidate in terms of overdose (high dose) and repeated doses (revaccination) in wild boar. Low-dose orally vaccinated animals developed only a slight transient fever after vaccination and revaccination. The results determined that the vaccine candidate protected 83.3% of wild boar against the challenge with the virulent ASFV genotype II Arm07 isolate.
- <u>2024:</u> The VACDIVA projects announce progress made with several wild boar oral vaccine candidates and plans to perform a field study with vaccination and challenge. The project has also developed a DIVA enzyme-linked immunosorbent assay kit for ASF.

References:

Recurrent reports reviewed WOAH - <u>WAHIS interface - Immediate</u> <u>notifications</u> WOAH - <u>WOAH Asia Regional Office</u> FAO - <u>ASF situation update in Asia & Pacific</u> DEFRA - <u>Animal conditions international</u> <u>monitoring reports</u> CAHSS - <u>CEZD Weekly Intelligence Report</u> European Commission -<u>ADIS disease overview</u> EUROPE Albania





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Albania: New cases of African swine fever are identified Germany ASF Germany: Virus in washed-up wild boar near Koblenz Poland Poland shows little progress Ukraine Ukraine restricts imports of meat products from EU countries due to ASF UK Over six tonnes of illegal meat seized in Dover Port in one weekend Authorities seize more than 6 tonnes of illegal meat Spain <u>Getting a grip on Rosalía with PRRSv</u> <u>vaccination</u> ASIA Sri Lanka <u>African Swine Fever virus entered through an</u> <u>unlawful consignment?</u> AFRICA Libya 20 sheep died from foot-and-mouth disease in <u>AI-Ajailat</u>

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 information's accuracy, completeness, or authenticity. 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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