

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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www.swinehealth.org/global-disease-surveillance-reports/

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Swine Disease Global Surveillance Report

Tuesday, January 31, 2022 – Monday, February 28, 2022

Report Highlights

- **African Swine Fever (ASF) in the Caribbean:** Outbreaks of ASF in Haiti, capital Port-au-Prince, and over 900 outbreaks confirmed in the Dominican Republic so far. OIRSA and FAO mobilize resources to support coordination on the island.
- **ASF in Romania:** 85 new outbreaks were reported in domestic pigs in February. The draft ASF surveillance and control action plan is still pending the Romanian government's approval.
- **ASF in Vietnam:** A Vietnamese-made commercial vaccine for ASF is expected in the next few months.
- **Pseudorabies Virus (PRV) in France:** Increasing concern in the spread of the disease in the growing wild pig population.
- **Scientific Report:** Wild boars are described as a reservoir of a highly virulent clone of hybrid shiga toxigenic and enterotoxigenic *Escherichia coli* (ETEC) responsible for edema disease.

OUTBREAKS BRIEF

R	Location	Date	Dx	Impact
2	Korochin, Russia	2/25	ASF	Recurrence in the region since the last case reported in March 2012 - Farm with 25 pigs.
2	Multiple provinces, Dominican Republic	Feb	ASF	New 123 outbreaks confirmed.
2	Multiple locations (Liguria and Piedmont), Italy	2/18	ASF	8 new cases in wild boar
1	Tan Bang province, Vietnam	2/16	ASF	National authorities confirmed an outbreak of ASF in domestic swine, in Tan Bang, southern Vietnam
	North Gyeongsang Province, South Korea	2/16	ASF	9 infected wild boars were found dead
1	Multiple locations (southeast, and central region) Romania	2/15	ASF	Commercial farms - at 1 commercial unit with more than 9,544 animals, and a farm with around 19,800 animals.
1	Luzon Island, Mimaropa, Eastern Visayas, and Mindanao Island, The Philippines	2/24	ASF	10 new locations confirmed ASF cases
1	Orlja village (southern region), Serbia	2/2	ASF	Backyard farm / 2 pigs
1	Forests of Oise and Île-de-France (North region), France	2/3	PRV	Several wild boar / Report of 5 dogs dead after being in contact with the carcasses

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. A map with the location of the events reported is available at the end of this report.

African Swine Fever

AMERICA

The Dominican Republic

Since the start of the epidemic (period between epidemiological week 30/2021 - 4/2022), **only 224 of the 905 confirmed outbreaks have been reported to the OIE** (last follow-up report - 2/16/22). The total loss of animals throughout these 204 outbreaks is over 18,000. Most of these reports are in backyard premises with fewer than 100 pigs, although some of those involved community-type backyard operations with around 1,000 pigs. Thirteen of these reports affected farms, with different levels of technification and with population sizes ranging between 200 to 1,700 pigs (Table 1).

FARM TYPE	QUANTITY	ANIMAL AFFECTED
Non-technified	8	1,639
Semi-technified	4	2,636
Technified	1	1,737
Total	13	6,012

Table 1. Detail of outbreaks in the Dominican Republic in farms

The Epidemiology Division, Department of Animal Health (DAH), Directorate of Livestock, Ministry of Agriculture in the Dominican Republic, is implementing the early alert reporting system, where all suspected cases are reported. There are some backlogs in their submission to OIE, inherent to the burden and challenges associated with investigating each suspected case that is reported.

Until February 15, authorities had confirmed by molecular diagnosis over 782 outbreaks in 29 provinces; 695 of those outbreaks have been resolved (Map 1).

Samples from over 2,000 production sites have been taken and processed by Dominican veterinary services; 43.11% **(905) of these samples tested positive**. It is important to note that the positive rate hasn't changed since November, denoting the continuous and steady spread of the virus throughout the population.

Impact

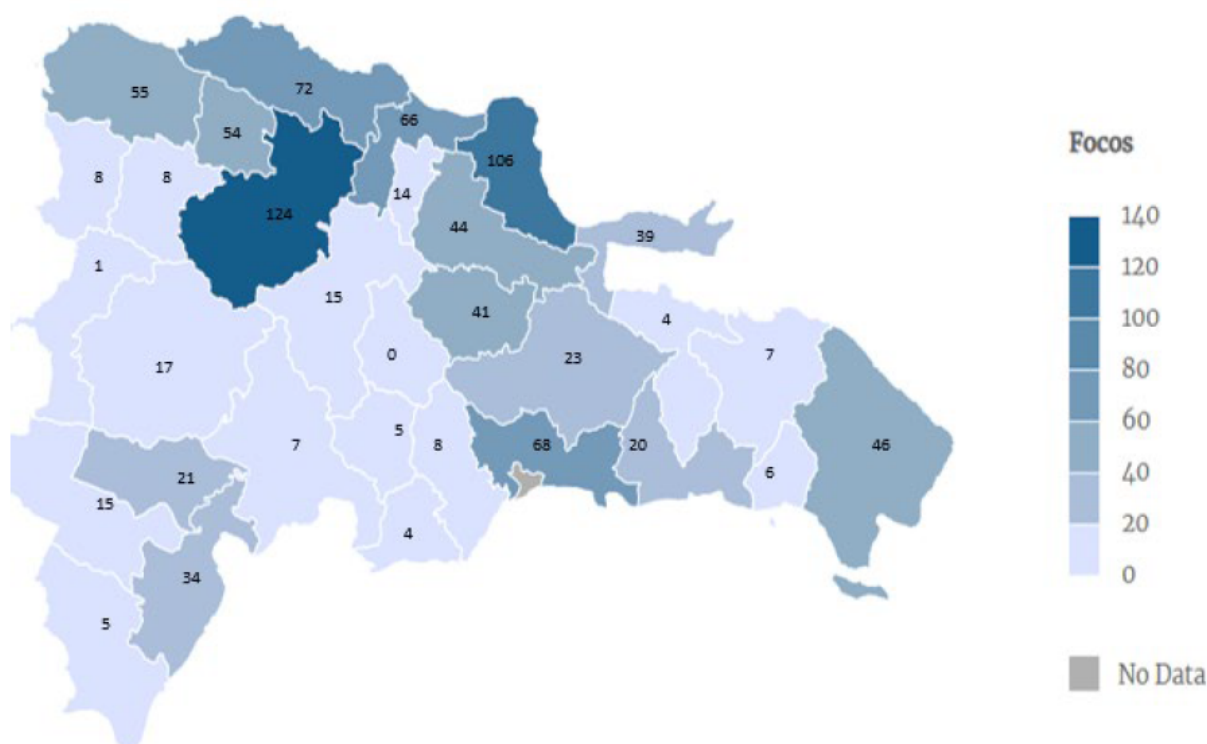
While government officers have stated in the last couple of weeks that the spread of the disease is under control, other stakeholders of the value chain have repeated their concern on local media outlets. For example, the president of the Dominican Association of Pig Farms (Adogranja), Luis Brache, confirms that the disease continues to attack some farms, both large and small pig farmers.

He assured that the State has paid over RD \$ 400 million (US\$ 7.3 million) to the affected producers throughout the country. He also emphasized the need to assess the presence of many other diseases that can have the same clinical signs.

The pork industry in the Dominican Republic is one of the key sectors of the agrarian economy because it creates more than 50,800 jobs a year. When pig production is measured at market prices, the estimated value for the year 2020 was about RD \$14.4 billion (US \$270 million), according to information from the Dominican Agribusiness Board (JAD).

The JAD is currently running a program to substitute other animals and products for pig farmers affected by ASF.

The virus has affected around 3,000 producers because more than 74,000 pigs were affected.



Map 1. Distribution of confirmed cases of ASF in the Dominican Republic since the first case in July

Haiti

Since the first report of the recurrence of ASF in Haiti (October 2021), only 26 outbreaks have been reported to the OIE, with the most recent follow-up report on January 31. This follow-up report shows that most of the outbreaks are in backyard farms with a handful of pigs, with no biosecurity measures in place. According to the OIE report, the most recent outbreak (1/19/2022) occurred in a backyard farm with six pigs, in the municipality of Arniquet, Port-Salut. The total losses registered throughout these outbreaks are 282 animals.

Support for Bilateral Coordination

On February 18, during a virtual meeting organized by the International Regional Organization for Agricultural Health (OIRSA), it was announced that next month, the Dominican Republic and Haiti would sign an agricultural health agreement to deal with ASF.

This agreement will be supported by the Food and Agriculture Organization of the United Nations (FAO) to strengthen the capacities of national veterinary services and animal health and epidemiological surveillance mechanisms in both countries to control ASF.

Rodrigo Castañeda, FAO representative, explained that this agreement would facilitate dialogue and border collaboration on ASF between both countries' technical and political authorities with a vision of controlling and eradicating the disease at the island level, thus preventing its spread to other nations in the region.

The agreement was established to strengthen the food safety mechanisms of surveillance and control in the border area, for which the FAO has contributed RD \$28.7 million (US \$514,000).

Unfortunately, the significant difficulties between both countries to address the migratory crisis across the border may hinder these efforts. From January 1 to February 10, the Dominican authorities intercepted 7,697 Haitians in an irregular migratory status trying to enter Dominican territory.

EUROPE

In February (01/22/22 - 02/25/22), **five countries**, including Italy, Moldova, Russia, Romania, Serbia, and Ukraine, reported new ASF outbreaks in domestic pigs. This is a significant increase compared to the records of 2021, where only two countries (Romania (n=390) and Ukraine (n=3)) reported cases in the first half of the year.

Since the beginning of 2022, European countries have registered 68 outbreaks in domestic pigs in February (a significant increase of almost two times compared to the total reported in January (n= 35)). (25/02_EC ADIS disease outbreaks report)

Meanwhile, **13 countries**, namely Bulgaria, Estonia, Germany, Hungary, Italy, Latvia, Lithuania, Moldova, Poland, Romania, Serbia, Slovakia, and Ukraine, reported cases of ASF in wild boars (European Commission Animal Disease Information System (ADIS), OIE-WAHIS).

The latest update from ADIS includes the total number of ASF outbreaks among European wild boar in 2022, which as of February 25 lies at 1,903 across 13 countries. Compared with the previous update on January 22, this figure represents 1,127 new outbreaks, which is a 1.45 times increase compared to the reports of January.

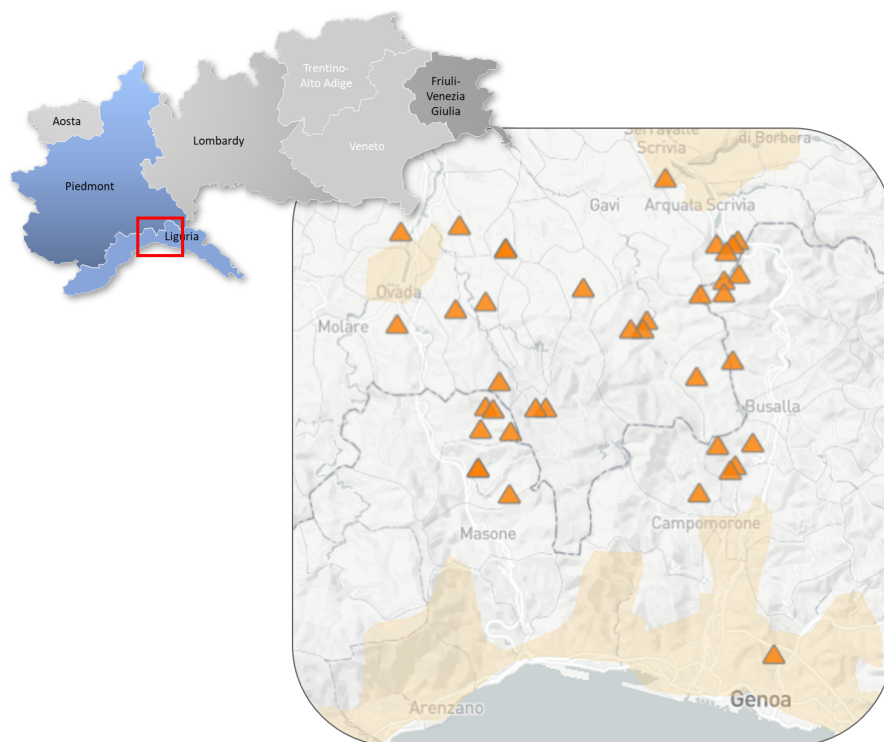
Regional Highlights:

- **Italy:** Based on the information provided by Experimental Zooprophyllactic Institute of Piedmont, Liguria, and Valle d'Aosta, and reported to the OIE, the current toll of ASF cases in wild boar is 39 cases, of which 20 in Piedmont and 19 in Liguria (Map 2)
- **Germany:** In Germany, the total number of ASF cases in wild boar has risen to 3,463. This figure covers all cases in the wild population since the first case in September 2020. This total comprises 2,447 in Brandenburg (as of February 21), 1,005 in neighboring Saxony (as of February 22), and 11 in Mecklenburg-West Pomerania (as of February 22).
- **Romania:** Over the past two months, Romania's animal health agency has registered with the OIE 85 outbreaks of ASF in domestic pigs. Of these, 12 were confirmed in small backyard herds, while the other three were on farms. Pigs tested positive during the first half of February at one commercial unit with more than 9,544 animals in the country's southeast. Other cases were in central Romania — at a farm with around 19,800 animals and among 334 pigs at a registered holding.

The number of active ASF outbreaks in Romania continues to remain high. At the end of 2021, there was a 43% surge in the number of outbreaks from the same time in 2020. According to

the data published by the National Veterinary and Food Safety Authority (ANSVSA), 4,255 outbreaks have been confirmed from 2019 through the end of 2021. The number of ASF-positive wild boars reached 5,895 cases throughout Romania. Backyard holdings remain dominant in terms of the number of outbreaks (over 90%). Still, commercial farms are the most affected in terms of culled inventories and impact on the supply chain. **Based on the reports submitted to the OIE, since the first ASF detection in July 2017, the number of culled hogs under the ASF eradication program exceeded 1 million in October 2021.** The draft ASF surveillance and control action plan is still pending the Romanian government's approval.

- **Serbia:** Serbia has reported the first outbreaks since March 2021. The latest ADIS summary confirmed 11 outbreaks in domestic pigs and 32 cases in wild boar between 2 January 2021 and 8 January 2022 (ADIS, 2021; ADIS, 2022).



Map 2. Distributions of ASF positive wild boar carcasses found in Northern Italy

ASIA

In February, four countries - Thailand, The Philippines, Malaysia, and Vietnam - reported additional ASF outbreaks in domestic swine. While South Korea continued to report ASF cases in wild boar.

Regional highlights

- **Thailand:** On February 11, Thailand reported a new ASF outbreak in Khuang Nai (Khueang Nai) district, in the northwestern part of Ubon Ratchathani province, northeastern Thailand. This brings the number of provinces that have confirmed ASF outbreaks to 20 out of 77 provinces. The following provinces have now confirmed cases of asf in domestic swine: Bangkok Metropolis, Buri Ram, Chaiyaphum, Chiang Mai, Chumphon, Khon Kaen, Mae Hong Son, Maha Sarakham, Nakhon Si Thammarat, Nan, Nong Bua Lam Phu, Phangnga, Phatthalung, Prachuap Khiri Khan, Ratchaburi, Roi Et, Si Sa Ket, Songkhla, Suphan Buri, and Ubon Ratchathani
- **The Philippines:** On February 3 and 4, authorities in the Philippines confirmed two new ASF outbreaks in Catubig town, Eastern Visayas, and Tululan, Soccsksargen, respectively. Details

about the number of farms affected and pigs at risk are currently unavailable. As part of efforts to control the movement of pigs, the Philippines Department of Agriculture released an updated ASF zoning status map, showing regions where the most recent outbreaks occurred. ASF has been confirmed in four localities: Luzon Island, Mimaropa, Eastern Visayas, and Mindanao Island.

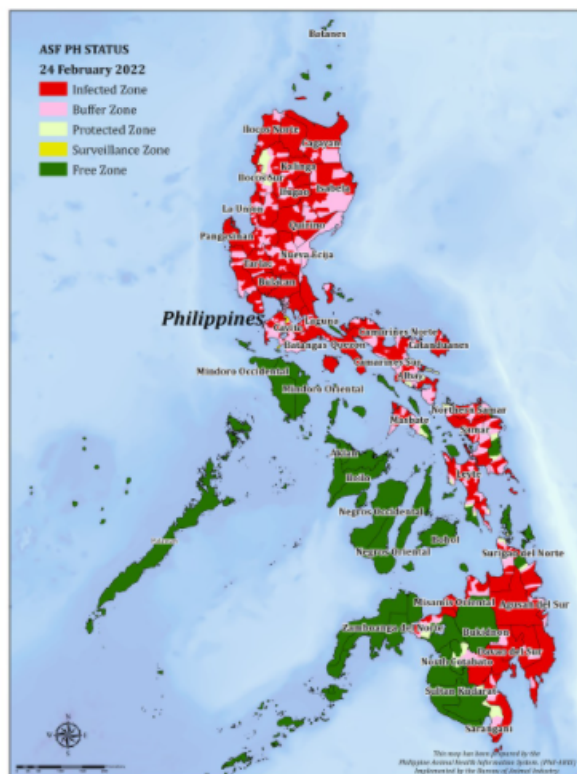


FIGURE 1. Map of the Philippines showing Zoning Status per City / Municipality

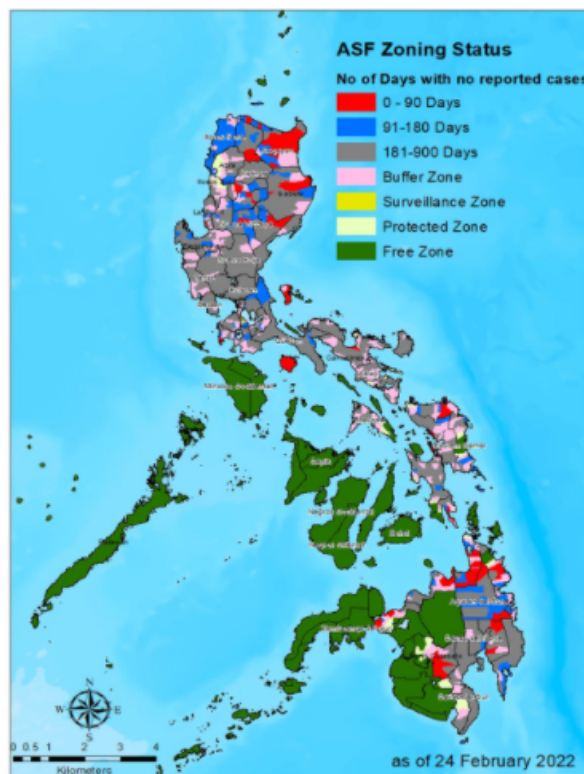


FIGURE 2. Map of the Philippines showing City / Municipality with no reported ASF case for ≤ 90 days (Red), 91 to 180 days (Blue) and ≥ 180 days (Grey).

Map 3. Current Zoning Status in the Philippines

- Malaysia:** The Department of Veterinary Services Sarawak embarked on a three-day culling exercise where about 1400 pigs from two farms that tested positive for ASF were culled. During the exercise, some 1,400 pigs in a commercial farm and 93 pigs in a smallholder farm were destroyed along with the contaminated feed. Sarawak State reported its first detection of ASF in three backyard farms in Durin, Sibul. Since then, the authorities have been doing mass surveillance and testing, with the culling of pigs in farms with ASF positive cases.
- Vietnam:** ASF Outbreak was reported in Tan Bang, Ca Mau province, southern Vietnam, on February 16. The magnitude of disease spread and number of farms and pigs affected is still unknown. This is the first reported ASF outbreak in 2022. In 2021 60 of the 63 provinces/cities in Vietnam reported outbreaks of ASF.

ASF vaccine development is nearing completion.

On a more positive note, the Vietnamese Ministry of Agriculture and Rural Development (MARD) announced that they are in the final stages of testing a locally produced vaccine for ASF. The vaccine, which will be available commercially in 2022, was developed using a genetically altered virus developed by the USDA.

South Korea: On February 8, South Korea reported five new cases of ASF in wild boar. According to information obtained from the global animal disease information system (EMPRESi), five dead wild

boars were found in Hwanam-myeon, a town in North Gyeongsang Province. As of 17 February 2022, a total of 2,146 ASFV infected wild boars were confirmed in the Republic of Korea.

Aujeszky's Disease - Pseudorabies (PRV)

EUROPE

France

In February, France reported the first case of PRV in 2022 in the Oise. In 2021, the country reported a total of five cases of PRV. In response, the National Porcine Federation asks the Ministry of Agriculture and the National Hunting Federation to act quickly against the multiplication of wild boars in France to prevent the spread of the disease.

A strong initiative without delay

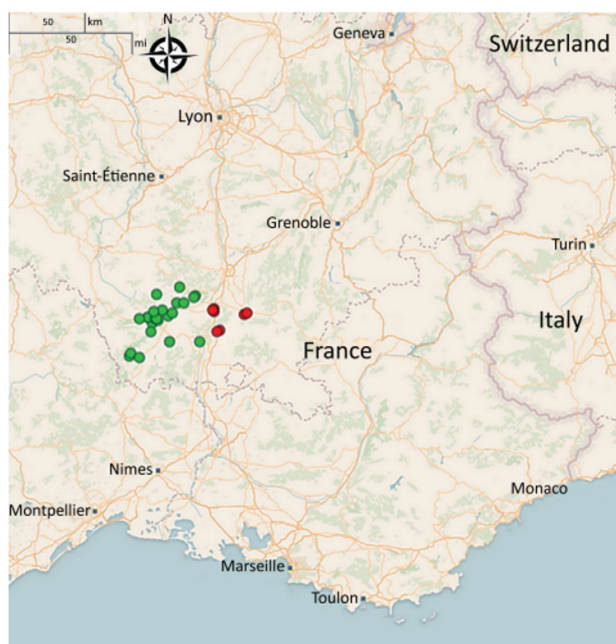
The union is asking for an immediate response triggered by the recent reports of wild boars carrying Aujeszky's disease in the forests of Oise (north region), which have recently caused the death of five dogs. The association's spokesperson also emphasized that this is also connected with the increased risk related to the recent incursion of ASF in Italy. In 2022 so far, the country has reported 46 cases of ASF in wild boar.

A single case of ASF in France on a wild boar would immediately lead to a loss of nearly 400 million euros for the French pork sector, warns the Association. French pig farming is in serious economic difficulty; it could not withstand a health crisis.

Research Focus

Wild Boars as Reservoir of Highly Virulent Clones of Hybrid Shiga Toxigenic and Enterotoxigenic *Escherichia coli* Responsible for Edema Disease, France - Perrat, et al.

[Emerg Infect Dis. 2022 Feb;28\(2\):382-393. doi: 10.3201/eid2802.211491.](https://doi.org/10.3201/eid2802.211491)



Map 4. Geographic location of 28 wild boar *Escherichia coli* O139:H1 strains in France Colors of the discs represent year of isolation (green, 2013–2016; red, 2019).

Edema disease is an often fatal enterotoxemia caused by specific Shiga toxin-producing *Escherichia coli* (STEC) strains that affect primarily healthy, rapidly growing nursery pigs. Recently, outbreaks of edema disease have also emerged in France in wild boars. Analysis of STEC strains isolated from wild boars during 2013–2019 showed that they belonged to the serotype O139:H1 and were positive for two virulent factors. However, in contrast to classical STEC O139:H1 strains circulating in pigs, they also possessed two enterotoxin genes, typical of enterotoxigenic *E. coli*.

*These data thus reveal that the emergence of edema disease in wild boars was caused by an atypical hybrid of STEC and enterotoxigenic *E. coli* O139:H1, which so far has been restricted to the wildlife environment.*

Because the wild boar population is growing and outdoor pig farming is rapidly developing in Europe because of animal welfare considerations, contacts between wild boars and pigs could enable the spread of infectious diseases, if appropriate biosecurity measures are not implemented. Surveillance of this highly pathogenic clade in the wild boar population and in livestock animals is therefore of the highest importance and is needed to study its spread in the wildlife reservoir and potential transmission to domestic pigs.



Map 5. 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

OIE - [WAHIS interface](#) - Immediate notifications

OIE - **OIE Asia Regional office**

FAO - OIE - **WAHIS interface** - Immediate notifications

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

CAHSS - CEZD Weekly Intelligence Report

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AMERICA

The Dominican Republic

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France

https://www.pig333.com/swine_abstracts/cause-of-edema-disease-in-wild-boars-in-france_18073/

<https://www.leparisien.fr/seine-et-marne-77/virus-de-sanglier-et-tueuse-de-chien-la-maladie-daujeszky-frappe-en-ile-de-france-et-dans-loise-11-02-2022-Q433EZAMLRBPPGJFUSBMFKRAA4.php>

ASIA

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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