

# Swine Disease Global Surveillance Report

Worldwide pork production is highly interconnected by trade between countries and markets which could increase the risk of introduction of foreign pathogens into the US.

## PROJECT

The aim of these reports is to have a system for near real-time identification of hazards that will contribute to the mission of assessing risks to the industry and ultimately, facilitate early detection and identification, or prevent occurrence of events, in partnership with official agencies, and with our international network of collaborators.

Monthly reports are created based on the systematic screening of multiple official data sources, such as government and international organization websites, and soft data sources like blogs, newspapers, and unstructured electronic information from around the world, that then are curated to build a raw repository. Afterward, a group of experts uses a multi-criteria rubric to score each event, based on novelty, potential direct and indirect financial impacts on the US market, credibility, scale and speed of the outbreak, connectedness, and local capacity to respond average is calculated. The output of the rubric is a final single score for each event which then it is published including an epidemiological interpretation of the context of the event.

*These communications and the information contained therein are for general informational and educational purposes only and are not to be construed as recommending or advocating a specific course of action.*



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[www.cahfs.umn.edu](http://www.cahfs.umn.edu)

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[www.swinehealth.org/global-disease-surveillance-reports/](http://www.swinehealth.org/global-disease-surveillance-reports/)

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reporting TOOL**



## Swine Disease Global Surveillance Report

Tuesday, May 2 to Monday, June 5, 2023

### Report Highlights

- **African Swine Fever in Russia:** Extensive outbreak reported in a commercial farm with over 100,000 animals -- veterinary authorities reported feed contaminated with ASF as the plausible source of infection.
- **ASF in Italy:** A new long-distance jump to a previously free area almost 500 miles from the nearest affected area.
- **FMD incursion in South Korea:** After over four years, 11 new outbreaks have been reported south of Seoul.
- **EFSA report:** According to the agency's latest report, the number of ASF outbreaks in domestic pigs decreased by 79% across Europe in 2022 compared to the previous year.

### Updates on ASF vaccine

- **Vietnam:** At least three companies are working on the production and field evaluation of vaccine candidates against ASF.
- **The Philippines:** The Bureau of Animal Industry in Manila has recommended the Vietnam-manufactured AVAC vaccine for ASF to the Philippine Food and Drug Administration.
- **Dominican Republic:** Dominican authorities reported their plan to launch the administration of the NAVET-ASFVAC vaccine against ASF.
- **South Korea:** First step in a public-private partnership to develop wild boar ASF vaccine taken.

### OUTBREAKS BRIEF

R	Location	Date	Dx	Impact
2	Calabria, Italy	5/17	ASF	2 reports in domestic cases after the detection of the infection in wild boar
2	Primorsky Kai, (far East Region), Russia	5/10	ASF	Commercial farm with 103,179 pigs affected
2	Chungcheong province, South Korea	5/19	FMD	11 outbreaks confirmed - 1,649 susceptible animals culled
1	Cenei (Western Timis County), Romania	5/19	ASF	Over 18,000 pigs culled
1	Jhapa, Nepal	5/19	ASF	230 cases in a farm with 4,300 pigs
1	Negros Oriental province, The Philippines	5/22	ASF	First outbreak in the province - 265 affected pigs

*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.*

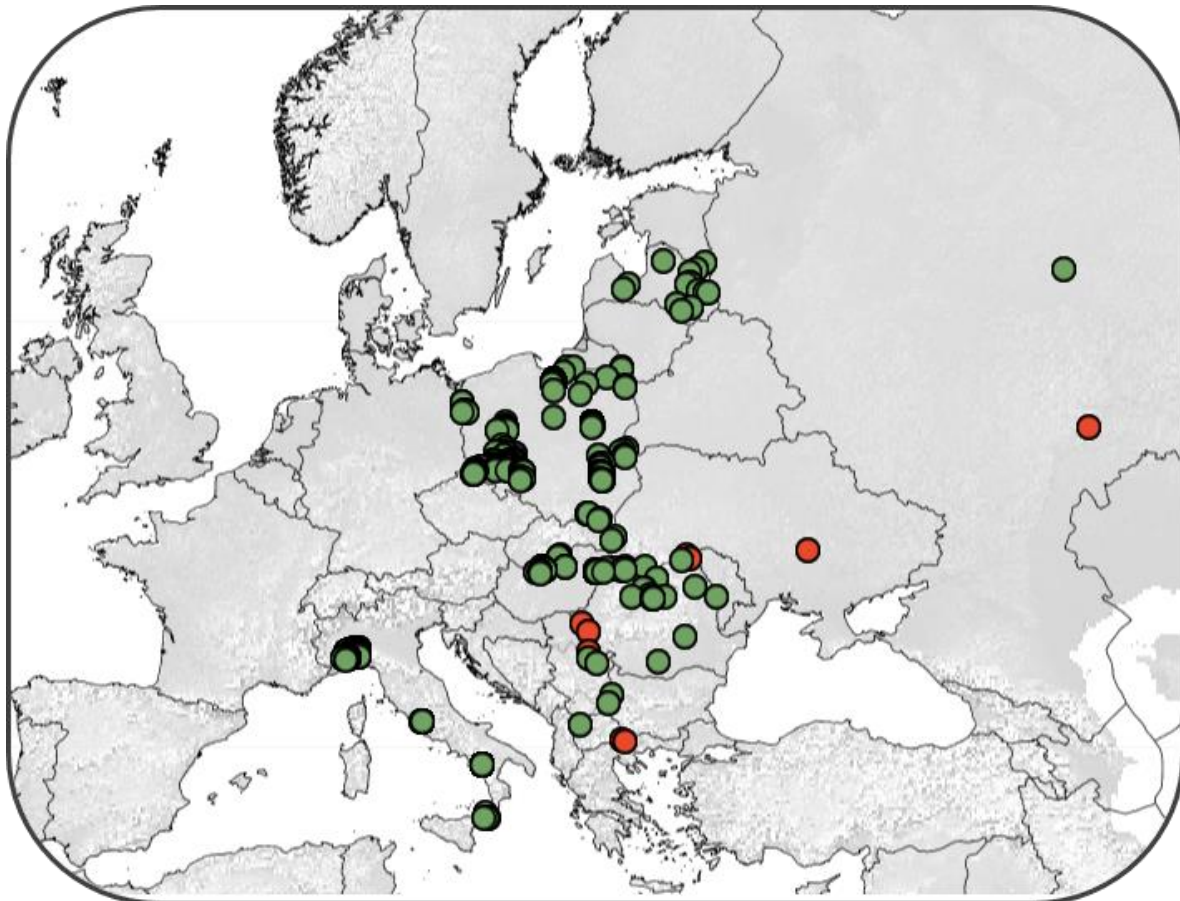
## African Swine Fever

### EUROPE

In May (04/27/2023 - 05/31/2023), five European countries (Greece, Italy, Romania, Serbia, and Ukraine) and Russia reported 60 outbreaks in domestic pigs, two times more than the previous month (n=28). The virus demonstrated another “jump” reaching a farm in a previously non-affected territory of Calabria, Italy.

The number of outbreaks in wild boar also almost doubled since the last report (n=476). Thus, a total of 885 outbreaks were registered by 14 European countries (Bulgaria, Czech Republic, Germany, Hungary, Italy, Latvia, Lithuania, Moldova, North Macedonia, Poland, Romania, Serbia, Slovakia, and Ukraine) according to the EU Animal Diseases Information System (ADIS), an additional two were reported by Russia through WOAAH WAHIS. Slovakia (n=81) replaced Germany on the list of the top three countries with the highest number of outbreaks. Consequently, Poland leads the list (n=411), followed by Italy (n=160).

**Overall, 190 outbreaks in domestic pigs and 4401 in wild boars were reported through EU ADIS since the beginning of the year (01/01/2023 - 05/26/2023).**



Map 1. The distribution of African swine fever outbreaks in Europe (in green: wild boars; in red: domestic pigs): May 1, 2023 - June 6, 2023 - (Source: FAO [EMPRES-i](#))

### Regional highlights:

- **Greece | May 10: Greek authorities reported the first outbreak of the year, in domestic pigs at a farm with 675 pigs in Central Macedonia.** While two of the pigs died, the fate of the rest of the herd is not reported.
- **Russia | May 10: ASF hit commercial holding Rusagro-Primorye LLC in Primorsky Krai, the Far East region of the country, with 103,179 susceptible animals.** According to the information of the Primorsky Interregional Department of Rosselkhoznadzor, the first outbreak was reported on May 10 at the pig farm "Leninsky-2" with a susceptible population of 53,503 animals, and ten days later, the outbreak was confirmed at the second farm "Leninsky-1", located at a distance of 500 meters, with 49,676 pigs.

Moreover, the Primorsky interregional veterinary laboratory of Rosselkhoznadzor revealed the ASF virus in feed for pigs for the first time. The test protocol of May 16 confirmed the DNA of the ASFV in the studied samples of meat and bone meal produced at the pig farm in the village of Mikhailovka, which is a part of the group of companies "Rusagro."

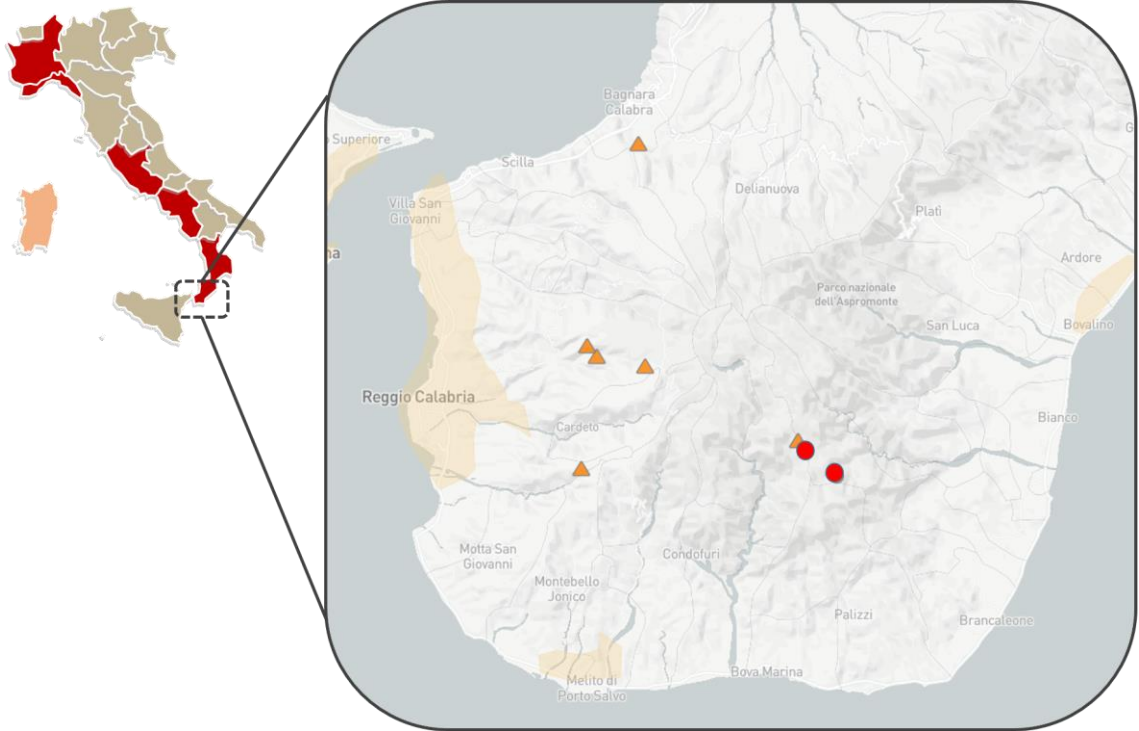
On May 26, an outbreak was reported on a Khvalynsky pig farm in the Saratov region, which is part of the KoPitania holding, affecting 8,000 pigs. The Khvalynsky Pig Complex LLC was founded in 2009; it includes a pedigree reproducer for 500 sows located just in Akatnaya Maza and a pig farm for 2400 sows under Engels.

- **Italy | May 17: For the first time, ASF was detected in Calabria and Campania, southern Italy.** Four cases (three - near the south-west edge of Aspromonte National Park, and the fourth - over 6 miles (10 km) to the north, close to the coast) were reported in wild boars and, subsequently, an outbreak was confirmed on a small breeding pig farms causing the death of two out of 69 animals on one premise and 11 deaths out of an unspecified number of pigs at another in Africo, Calabria. **This represents a new long-distance jump of the virus to a previously free area almost 500 miles (800 km) from the nearest affected area, in the region of Lazio.**

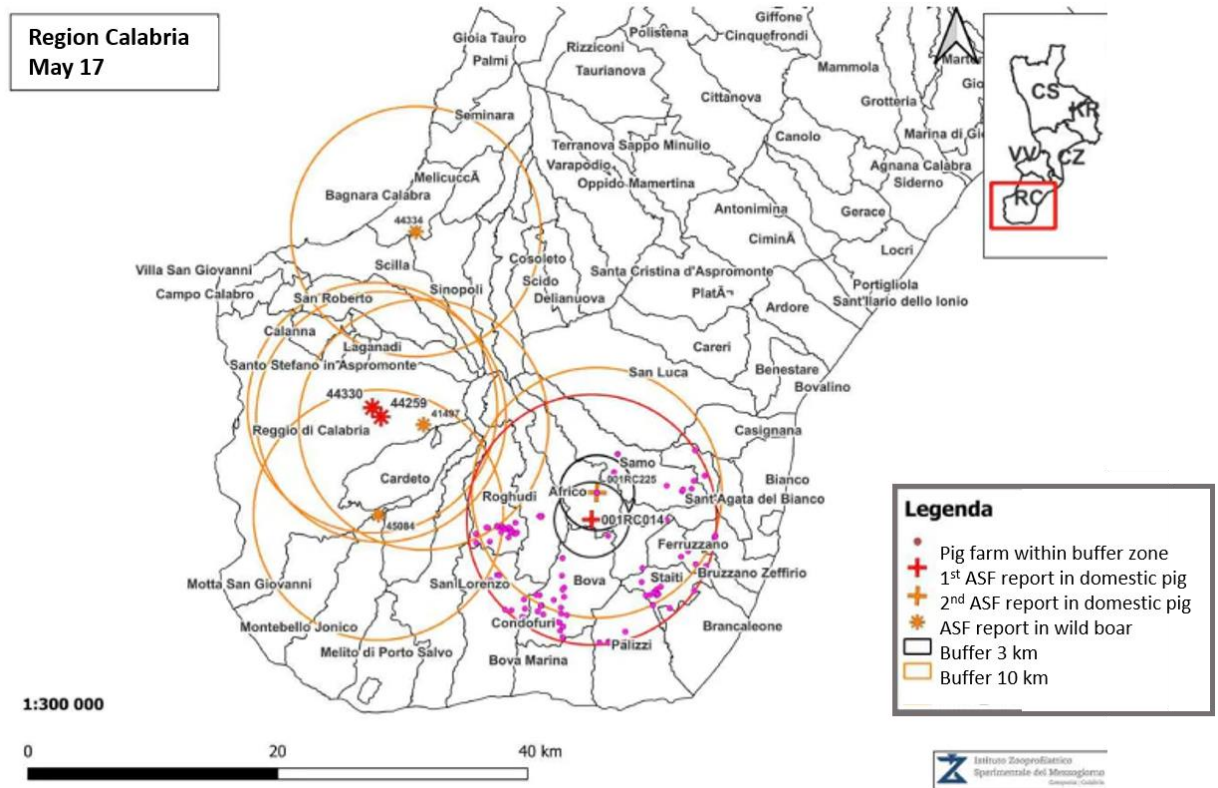
According to the UK Department of Environment, Food, and Rural Affairs ([DEFRA](#)) report, currently, there is no evidence of an epidemiological link between these cases and disease clusters in northern or central Italy. It is suspected that the disease has been introduced via human-mediated routes since there is a major road trade route through the area. However, it is currently unclear whether there is an epidemiological link to other affected areas within Italy or if this is a new incursion from outside the country. According to Italian Official Veterinary Services, the possibility of an accidental introduction via workers from Eastern Europe is being considered, as during the artichoke harvesting season, they could have accidentally transported the virus from their countries of origin through contaminated products to which wild boar populations would have had access. Later in May, the disease spread to the Campania region, where ASF was detected in wild boar carcasses found in the municipalities of Sanza (SA) and Montesano sulla Marcellana (SA), bringing the number of affected regions to five, namely Piemonte Liguria, Lazio, and Calabria, and now Campania.

Recent cases in Calabria represent another jump of the virus, bringing the total number of such events in Europe to six since January 2022. Thus, in July 2022, a similar situation was observed in western Germany. Along with the movement of infected pigs and wild boar, human-mediated transport of infected products or contaminated equipment/products (fomites) with subsequent exposure of susceptible animals were named as potential pathways of disease distribution.





Map 2. New ASF cases in domestic pigs and wild boars in Italy and affected regions: May 1, 2023 - June 5, 2023 (Source: [WAHIS](#))



Map 3. Distribution of the ASF reports and the pig farms in the affected region. (Source: [Istituto Zooprofilattico sperimentale del Mezzogiorno](#))

- **Romania | May 19: ASF confirmed on a big commercial farm in Cenei, western Timis County, 18,000 pigs to be culled.** In mid-May, 16 animals died of ASF on a premise of approximately 17,900 animals operated by Smithfield (part of the WH Group) in Cenei, western Timis County. The infection was detected through routine testing. Despite the ongoing epidemiological investigation, it has been found that the biosecurity rules have been respected.  
Three days later, the outbreak was confirmed in another commercial pig herd in Satu Mare, northwest of Romania, where 45 of 13,700 animals died. Since 2019, most confirmed cases have been registered in small backyard herds. However, outbreaks on commercial farms like the recent ones have also taken place.
- **Slovakia | May 27: Slovakia joins the European cooperation to combat ASF.** Thus, the Slovak Agriculture Ministry and The European Food and Safety Authority (EFSA) unite for the third time in their effort to combat ASF by raising awareness among farmers, hunters, and veterinarians about ASF and highlighting the importance of prevention, detection, and of reporting potential cases.

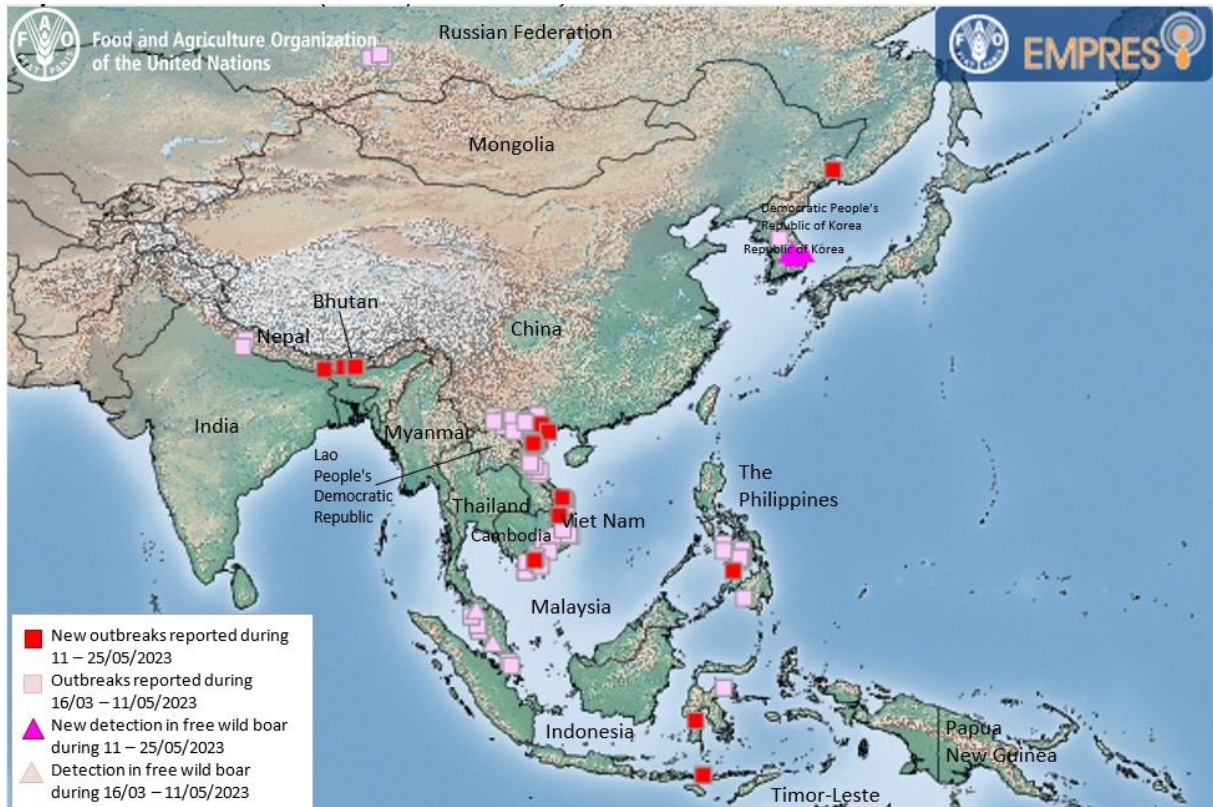
### *EFSA report*

According to [the European Food Safety Authority's \(EFSA\) latest report](#), the number of outbreaks in domestic pigs and cases in wild boar decreased significantly across Europe in 2022 compared to the previous year. Specifically, the number of outbreaks in domestic pigs decreased by 79%, particularly in Romania, Poland, and Bulgaria. On the other hand, an increased number of outbreaks was observed in Lithuania due to a cluster of outbreaks notified in summer in the southwestern part of the country. Overall, eight EU countries (Bulgaria, Germany, Italy, Latvia, Lithuania, Poland, Romania, and Slovakia) and four non-EU neighboring countries (Moldova, North Macedonia, Serbia, and Ukraine) reported outbreaks in domestic pigs. Romania was the most affected EU country, with 327 outbreaks, representing 87% of the total EU outbreaks. Serbia was the most affected non-EU country in the report, with 107 outbreaks. ASF was notified for the first time of the domestic swine population in North Macedonia. In many countries, a significant decrease in the number of pig establishments was observed, especially in small establishments with fewer than 100 pigs. The ratio between farm incidence and the proportion of pigs lost due to ASF in the EU was, in general, very low (average of 1%), apart from some regions in Romania.

In 2022 the number of cases in wild boars decreased by 40%, indicating the first decrease in ASF cases in wild boar in the area since its introduction in 2014. Eleven EU Member States (Czechia, Estonia, and Hungary, in addition to the Member States with outbreaks among domestic pigs) and four non-EU countries (Moldova, North Macedonia, Serbia, and Ukraine) notified ASF cases in wild boar. The impact of ASF on wild boar populations was variable, with a decline in wild boar abundance observed in certain countries versus a stable or even increased population after ASF introduction. This supports the negative relationship observed in this report between the proportion of the country with restricted zones due to ASF in wild boar and wild boar hunting bags.

## ASIA

In May, seven countries (India, Nepal, The Philippines, North Korea, Vietnam, and Indonesia) reported ASF outbreaks in domestic swine, and South Korea reported new cases in wild boars (Map 4).



Map 4. African swine fever outbreak distribution in domestic pigs and wild boars in Asia as of April 13, 2023. (Source: FAO [EMPRES-i](#) - Data sources: Viet Nam: WAHIS & media information, Republic of Korea, the Philippines, Indonesia, Timor-Leste: WAHIS and government websites, Other: WAHIS)

### Regional highlights:

**Nepal | May 19: One new outbreak was reported in a pig farm in Topgachhi-5, Kamal Rural Municipality, Jhapa.** This outbreak started on May 6 when 80 deaths and 150 cases were reported in a farm with 4300 susceptible pigs. Since the first occurrence of ASF in Nepal in mid-March 2022, 40 outbreaks have been reported leading to more than 16,000 deaths in domestic pigs and 17,416 cases recorded with over 25,000 pigs at risk. During this time, Nepal has also reported a single case of ASF in wild boar.

**India | May 4-5: Two states, Meghalaya and Mizoram, reported ASF outbreaks.** In [Meghalaya](#), three farms, including government pig farms in Pynursla, Nongkasen, and Umsawniang, have been affected. In [Mizoram](#), preliminary test results indicated the presence of ASF in Ngur village, Champhai District. As a result, the district's Animal Husbandry and Veterinary Officer declared Ngur village as an "Infected Area" under the provisions of the "The Prevention and Control of Infectious & Contagious Disease in Animal Act 2009." Measures will be implemented to prevent the further spread of the disease and ensure effective control.

**Vietnam | May 3-19: Outbreaks have continued to occur in the north and central regions of the country.** These outbreaks have been reported by the national authorities to the [FAO EMPRES-i](#) platform albeit with little epidemiological information. One of the provinces affected is Ninh Binh, found in northern Vietnam. ASF outbreaks still [persist in localities of Ninh Binh province](#), affecting 48



communes and towns. More than 3,600 infected pigs, weighing over 150 tons, have been culled. The recurrence of outbreaks is attributed to the virus's persistence in the environment, coupled with inadequate biosecurity practices and the absence of specific vaccines or treatments. To address the situation, the provincial government has allocated significant funds to support disease prevention measures. Authorities are closely monitoring and controlling the disease, providing training to farmers, and maintaining strict biosecurity protocols. The aim is to eliminate outbreaks, prevent further spread, and protect the approximately 350,000 pigs in the province.

**The Philippines | May 22: the first ASF outbreak logged by the Negros Oriental province.** The first case was detected in the municipality of Dauin, according to the Bureau of Animal Industry, an attached agency of the Department of Agriculture. At least 265 pigs had been culled within a radius of 500 meters from the ASF-affected area. **On May 26, Negros Occidental province reported first two cases in the capitol city of Bacolod after more than three years since ASF introduction to the country.** Thus, blood samples of hogs from a backyard piggery in Barangay Taculing tested positive. According to the mayor, the hogs came from Bago City, just south of Bacolod.

While new provinces are registering outbreaks of ASF, the number of deaths from hog cholera (classical swine fever) and other diseases is also increasing, which makes differential diagnosis even more difficult. Thus, swine deaths in Negros Occidental due to hog cholera and other diseases rose to 6,000, causing P71.3 million in damage, with 2,220 hog raisers in 110 barangays affected.

### Updates in ASF Vaccine Production and Evaluation

**Vietnam |** In the competitive landscape of ASF vaccine production and evaluation, Vietnam has emerged as the frontrunner. Currently, under the supervision of the Ministry of Agriculture and Rural Development, at least two laboratories are conducting field assessments on the safety and effectiveness of two vaccine candidates. These efforts aim to complete the necessary evaluation for obtaining full registration for commercial purposes. For a summary of the latest information, please refer to Appendix 1 at the end of this report.

Laboratory	AVAC Vietnam Co. Ltd.	NATVECO
Vaccine Commercial Name	AVAC	NAVET-ASFVAC
Vaccine Candidate Name	ASFV-G-ΔMGF	ASFV-G-ΔI177L

#### *Partnership with the Industry*

AVAC ASF LIVE has confirmed high effectiveness in clinical trials conducted since March of last year and has been used in some pig farms under the supervision of the authorities after receiving conditional distribution approval in July 2022. Preliminary results shared on public media sources reported a clinical trial conducted by the company on 600,544 pigs from 545 pig farms, in partnership with livestock company CP Vietnam, demonstrated 93.34% of the technical requirements as a result of sample tests on 5,958 randomly selected pigs.

**The Philippines | June 2:** The Bureau of Animal Industry in Manila has recommended the Vietnam-manufactured AVAC vaccine for ASF to the Food and Drug Administration. Authorities stated that clinical trials conducted on six farms across Luzon demonstrated the safety and efficacy of the vaccine, showing increased levels of antibodies against ASF (*NOTE: until this date, no detailed information regarding these clinical trials has been released by BAI nor published in scientific journals*).

The BAI has submitted a letter of recommendation for Philippine FDA approval, and once granted, the BAI plans to import at least 600,000 doses of the Avac vaccine. The guidelines for its rollout will be released after the Philippine FDA issues a Certificate of Product Registration.

The vaccine is a single shot for hogs aged 4-10 weeks. While not mandatory, the BAI encourages hog raisers to take advantage of the vaccine. Pricing details are yet to be released, but the Department of Agriculture aims to make it accessible to commercial and small backyard hog raisers.

**Dominican Republic** | Dominican authorities reported their plan to launch the administration of the NAVET-ASFVAC vaccine. Vaccination plans are being developed for meat pigs aged 8 to 10 weeks, starting on a smaller scale and gradually expanding. The vaccines were obtained through a cooperative effort with the Vietnamese government. Likewise, the report indicates that, in the Dominican Republic, an execution plan has been developed on a smaller scale, complying with all the biosafety protocols, where identification rings are placed on each vaccinated pig to take samples after 29 days, take it to the laboratory and reconfirm the safety and effectiveness of the vaccine.

**South Korea** | National Wildlife Disease Management Service under the Ministry of Environment signed a business agreement with Chungnam National University Veterinary College Animal Science Research Center, Central Vaccine Research Institute, and Avinext to promote the commercialization of the ASF vaccine for wild boars. The Wildlife Disease Management Service established a five-year plan to develop a wild boar ASF vaccine in 2021 and started related research. Last year, potential vaccine candidates were selected, and their efficacy is currently being evaluated.

National authorities have also been involved in various efforts to develop vaccines against ASF locally and evaluate vaccine platforms developed by other countries. Komipharm, a local veterinary pharmaceutical company, has been working on an ASF vaccine since 2019 and reported promising results in clinical trials last April.

Additionally, during the Korean Society of Animal Hygiene Conference, experts highlighted the importance of establishing standards for the introduction of ASF vaccines in Korea. They emphasized the need to set minimum safety and defense standards to prepare for urgent vaccine usage, considering the side effects observed in Vietnam and China. It was noted that caution should be exercised during domestic commercialization, especially regarding vaccinated pigs with underlying diseases or weak immunity. Furthermore, careful management is crucial to prevent transmission of the vaccine virus from wild boars to domestic pigs, even when utilizing a bait vaccine.

## Foot-and-mouth disease

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In May, four countries in Asia—South Korea, China, Iraq and West Bank—officially reported FMD outbreaks to the World Organization for Animal Health. Furthermore, a news source reported FMD outbreaks in North Korea, but the authorities there did not notify WOA. In Africa, Comoros reported FMD SAT1 outbreaks, a new strain in the country that began in December 2022. Tunisia reported outbreaks of FMD SAT1.

### ASIA

**China | May 19: An immediate notification was sent to WOA.** Eight cases of FMD in cattle were detected at a disinfection station along highway G314 in Bayin'gholin Mongol, in the autonomous region of Xinjiang Uygur, in the northwest of China. These cases were detected during routine inspections of animals that were being moved legally. The FMD serotype of this outbreak was confirmed as Type O, and 35 cattle were at risk. Authorities have applied movement control measures to prevent further spread. This is China's third report on FMD type O outbreaks at disinfection or quarantine facilities in

2023, but only the second in Xinjiang Uygur. The third outbreak of 2023 was previously reported in Guangxi province.

**Iraq | June 2: New outbreaks caused by FMD SAT 2 virus continue to occur.** Since the beginning of May, there have been fourteen new FMD outbreaks. These outbreaks have affected domestic buffaloes, cattle, and sheep, resulting in 31 new cases and a total of 668 susceptible animals. These outbreaks have occurred in various regions of the country, including the north, central, and southern parts. The overall situation regarding FMD has not seen significant changes, and the country is still awaiting the arrival of FMD vaccines.

**The Republic of Korea | May 19: Eleven FMD outbreaks reported since May 10.** A total of 11 outbreaks have been [reported to WOA](#), affecting domestic cattle and goats. The total number of cases in all affected species is 33, and 1649 susceptible animals. The virus strain in this outbreak is serotype O, which is already present in Korea, and the vaccination coverage in most of the affected areas is above 95%, although more vaccination has taken place in response to the outbreaks. Emergency quarantine measures have been implemented, including movement restrictions for livestock, culling of all cases and susceptible animals, and disinfection efforts. The [government suspects](#) that the virus may have originated from Southeast Asia, and investigations are ongoing. The last confirmed case of FMD in Korea was in April 2019, making this the first occurrence in over four years.

#### **OUTBREAKS TIMELINE | In Chungcheongbuk-do province:**

##### **May 10, 2023**

- Thirteen cases in domestic cattle confirmed by a diagnostic test, at a farm in Bugi-myeon, Cheongwon-gu, Cheongju-si. All susceptible 216 cattle culled and disposed of.
- Two cases in cattle were confirmed at a farm in Hwasangseokseong-ro, Bugi-myeon, Cheongwon-gu, Cheongju-si. All 116 susceptible cattle culled and disposed of.
- One case confirmed at a cattle farm with 68 cattle in Bugi-myeon, Cheongwon-gu, Cheongju-si. All susceptible cattle were killed and disposed of.

##### **May 11, 2023**

- One case confirmed at a cattle farm in Bugi-myeon, Cheongwon-gu, Cheongju-si. All 50 suspected cattle culled.

##### **May 12, 2023**

- Three cases confirmed at a cattle farm in Bugi-myeon, Cheongwon-gu, Cheongju-si. All 45 suspected cattle culled and disposed of.

##### **May 14, 2023**

- Four cases confirmed at a farm in Doan-myeon, Jeungpyeong-gun. All 398 susceptible cattle culled and disposed of.

##### **May 15, 2023**

- Three cases confirmed at a farm in Ochang-eup, Cheongwon-gu, Cheongju-si. All 186 susceptible cattle culled and disposed of.

**May 16, 2023**

- Two cases confirmed at a farm in Jangyang-gil, Bugi-myeon, Cheongwon-gu. All 267 susceptible cattle culled and disposed of.
- Two cases confirmed at a farm in Seokgok-gil, Doan-myeon, Jeungpyeong-gun. All 98 susceptible cattle culled and disposed of.
- One case confirmed at a farm in Hyeonamcheonsu-gil, Bugi-myeon, Cheongwon-gu, Cheongju-si. All 61 susceptible goats culled and disposed of.

**May 18, 2023**

- One case confirmed at a farm in Hwasangseokseong-ro, Bugi-myeon, Cheongwon-gu, Cheongju-si. All 94 susceptible cattle culled and disposed of.

## AFRICA

**Comoros | May 3: New strain, FMD Serotype SAT 1 confirmed.** National authorities reported to WOA, disease events which started in December 2022. During this time 30 outbreaks were reported in domestic cattle with 63 cases and 15 deaths. These outbreaks were due to introduction of live animals, and were confirmed by both ELISA and Real-time reverse transcription polymerase chain reaction (rRT-PCR). The reference laboratory successfully sequenced a sample and determined that the FMD virus belongs to serotype SAT1 and falls under the topotype I classification. When comparing the obtained sequences with those stored in the GenBank database, a similarity of 93% was observed with strains that were prevalent in Tanzania back in 2014. Disinfection, zoning, movement control, and surveillance were applied following the outbreaks however vaccination was not done.

**Tunisia | May 30: Four new outbreaks of Serotype O reported.** Since the first outbreak was reported on May 03, 51 cases, two deaths and 310 susceptible animals (cattle, sheep and goats) have been recorded. These outbreaks occurred in the localities of Sed Elkhir, Bir Saad, Jammel and El Helya. Vaccination of cattle and small ruminants is currently on-going along with other control measures. The national reference laboratory is currently in the process of characterizing the virus, but the analysis has not yet been completed. It was discovered that there was an error in the previous report regarding the presence of the ME-SA PanAsia-2 ANT-10 strain, which was wrongly included. As a result, the report was updated on May 16th, 2023.

## Trichinellosis (Trichinosis)

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In late April, an outbreak of trichinellosis was reported in Spain. The territorial health service in León, a city in northwest Spain, reported the outbreak among 16 people who participated in hunting activities in the [Valle Gordo and Tremor](#) area. One patient was initially identified with symptoms and confirmed to have trichinellosis. Later, four more cases were confirmed and the confirmed cases together with the remaining exposed individuals were undergoing treatment. The source of the infection is suspected to be sausages made from wild boar meat, as larvae were found in a chorizo sample. The investigation aims to determine the specific animal and hunting area responsible for the disease. All potentially contaminated food is being identified and destroyed to prevent further infections. Trichinellosis is a notifiable disease in Spain, primarily transmitted through the consumption of raw or undercooked meat from infected wild boar or pork. It is important to note that trichinellosis is not transmitted directly from person to person.

Earlier in March five human cases were confirmed and another five were suspected in Foggia province of Italy, all connected to consumption of wild boar meat.

### *Summary of the global situation*

Trichinellosis is a disease caused by eating raw or undercooked meat infected with the *Trichinella* parasite. An outbreak typically occurs when multiple individuals consume the same contaminated meat. According to the Centers for Disease Control and Prevention, globally, there are an estimated 10,000 cases of trichinellosis reported each year. But in the United States, the incidence of trichinellosis has significantly declined over time. In the late 1940s, an average of 400 cases were documented annually, whereas between 2011 and 2015, the average dropped to 16 cases per year. This reduction can be attributed to improved practices in pig farming, widespread freezing of pork (both commercially and at home), and increased public awareness regarding the risks of consuming raw or undercooked meat. The primary culprit behind human trichinellosis is *Trichinella spiralis*, which may be found in pigs. While other *Trichinella* species exist, they are less commonly associated with human infections and tend to infect wild animals in specific regions.

However, caution is still advised when consuming undercooked wild game, especially bear meat, as it remains a potential source of trichinellosis. While cases associated with properly prepared and commercially raised pork are rare, it is important to handle and cook wild game properly to minimize the risk of trichinellosis.



**Appendix 1:**

Laboratory	AVAC Vietnam Co. Ltd.	NATVECO
<b>Vaccine Commercial Name</b>	AVAC	NAVET-ASFVAC
<b>Vaccine Candidate Name</b>	ASFV-G-ΔMGF	ASFV-G-ΔI177L
<b>Available Reports</b>		
<b>Development</b>	Derived from the highly virulent ASFV Georgia 2007 isolate -- <a href="#">by specifically deleting six genes belonging to the multigene families (MGF) 360 and 505 genes</a>	Derived from the highly virulent ASFV Georgia 2007 isolate -- <a href="#">By specifically deleting I177L gene</a>
<b>Potency</b> <i>(Potency is the specific ability or capacity of the vaccine as measured by appropriate laboratory tests. Potency is measured using an efficacy test in the target animal species in a validated vaccination-challenge study)</i>	<a href="#">Protection against viral challenge in pigs and wild boars</a>	<a href="#">Protection against circulating Vietnamese field strain</a>
<b>Safety</b> <i>(Researchers and producers should demonstrate vaccine safety in different phases: intrinsic safety, field safety, batch safety, etc.)</i>	<a href="#">Standard in vivo reversion to virulence study</a>	<a href="#">Standard in vivo reversion to virulence study</a>
	Field safety trials ongoing - Still pending	Field safety trials ongoing - Still pending
<b>Efficacy</b> <i>(the ability of a vaccine to produce the result for which it is offered when used under the conditions recommended by the manufacturer)</i>  <b>Effectiveness</b> <i>(The vaccine protection achieved in the field within a vaccination program)</i>	Promising preliminary reports - Full reports to national authorities still pending	Promising preliminary reports - Full reports to national authorities still pending

Table 1. Summary of current public available information regarding the evaluation of ASF vaccines in Vietnam

## References:

### Recurrent reports reviewed

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

WOAH - [WOAH Asia Regional office](#)

FAO - [ASF situation update in Asia & Pacific](#)

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

CAHSS - [CEZD Weekly Intelligence Report](#)

European commission - [ADIS disease overview](#)

### EUROPE

[Epidemiological analysis of African swine fever in the European Union during 2022](#)

[African swine fever decreases in pigs and wild boar in the EU during 2022](#)

#### Italy

[African swine fever in Europe](#)

[Italy: Domestic pigs affected by ASF in Calabria](#)

[African swine fever spreads to fifth Italian region](#)

[Italy: ASF now in the Campania Region](#)

[Map of the affected region](#)

[«Infected after eating wild boar». What are the symptoms and how to treat them](#)

#### Romania

[African swine fever outbreak confirmed, approx. 18,000 pigs to be slaughtered](#)

#### Slovakia

[Slovakia Again Joins European Cooperation to Combat African Swine Fever](#)

#### Russia

[The second outbreak of ASF was registered at Rusagro-Primorye LLC](#)

[African swine fever virus found in feed for the first time in Primorye](#)

[THE KOPITANIA ASSET CAUGHT THE PLAGUE](#)

[In the Saratov region, an emergency mode was introduced in seven villages due to African swine fever](#)

#### China

[FMD in Xinjiang Uyгур](#)

#### Iraq

[New outbreaks of FMD SAT 2 in Iraq](#)

#### South Korea

[11 new FMD outbreaks reported](#)

[FMD in South Korea suspected to have originated from Southeast Asia](#)

#### Comoros

[New strain, FMD Serotype SAT 1 confirmed](#)

#### Tunisia

[More Serotype O outbreaks confirmed](#)

### OCEANIA

#### Australia

[Turtle, raw prawns and poultry meat found in 'one of the largest ever biosecurity hauls in Australian history'](#)

### ASIA

#### India

[Meghalaya and Mizoram reported ASF outbreaks](#)

#### Nepal

[ASF in Nepal](#)

#### Vietnam

[ASF still persists in vietnam with new outbreaks in the north and central regions](#)

#### South Korea

[African Swine Fever Case Reported in Pocheon](#)

[S. Korea beefs up containment measures against African swine fever](#)

#### The Philippines

[ASF reported in Negros Oriental town; 265 pigs culled](#)

[Bacolod City logs first 2 African swine fever cases](#)

[ASF detected in another Negros Oriental town](#)

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