

# African swine fever

## A major threat to the pig industry

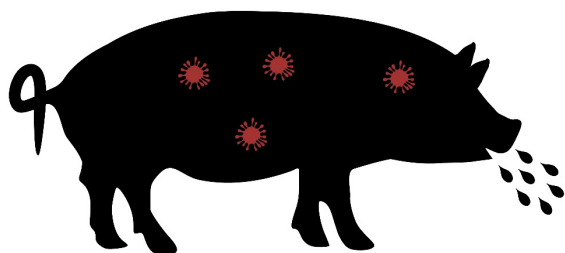
### SUMMARY

Since it made its first appearance on the African continent in the 1920s, African swine fever has spread worldwide, causing significant economic losses and trade disruptions, as well as raising severe concerns for pig health and welfare. The disease can result in death rates of up to 100 % in affected farms and there is currently no cure. It does not, however, pose a danger to human health.

The years 2022 to 2023 saw a major upsurge in cases of the disease worldwide, affecting EU regions but also countries that had never faced this problem before.

The European Commission has taken a series of measures to prevent the spread of the disease, while also adopting strict regulations and specific control measures. As all animals hosted on an affected farm must be destroyed, this leads to a significant economic loss for the countries concerned. Nevertheless, some of them have been able to share success stories of eradication.

The European Parliament has questioned the European Commission on several occasions and looked at the issue from different perspectives in the search for solutions.



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## Introduction

African swine fever (ASF) is a highly transmissible viral disease that affects both domestic and wild pigs and has a mortality rate of up to 100 %. The disease poses no threat to human health. However, as pig rearing can represent the main income for many farmers, especially family-run businesses, an outbreak can have devastating effects on both farm pig populations and the overall economy.

Detected for the first time on the African continent in 1921, African swine fever spread to other continents in the 1950s, finally reaching Europe in 1960s. Currently, the disease is continuing to spread worldwide, affecting both domestic and wild pigs and leading to trade restrictions and disruptions on the global pork market.

## What is African swine fever?

African swine fever is a viral, [non-zoonotic](#) (i.e. not transmissible to humans), usually deadly, disease affecting pigs and wild boars, caused by a large and complex DNA virus of the *Asfarviridae* family.

Transmission occurs through direct contact with infected animals (usually between domestic pigs and wild boars), contact with contaminated objects (boots, clothes, tyres, equipment, etc.) conveyed from an infected farm/area to uncontaminated ones, ingestion of infected meat/meat products but also contaminated kitchen waste and feed, and bites by infectious ticks. The spread happens mainly through the movement of infected animals, contaminated pork products and the illegal disposal of carcasses. The virus is able to [survive](#) for long periods in the environment and in infected samples (many years at -70°C, 2 years at -20°C, 61 weeks at 4°C, 22 days at 37°C, 1 hour at 56°C and 15 minutes at 60°C). In addition, it has been shown that some arthropods can transmit the virus up to [5 years](#) after being infected.

[Clinical symptoms](#) include fever, lethargy, loss of appetite, red skin, dysentery, and vomiting. Sometimes bleeding, cyanosis and skin necrosis are also observed. Sudden death without any other sign may occur and pregnant sows may abort. Only laboratory tests give the definitive diagnosis.

While the majority of viruses can be [neutralised](#) by antibodies, this does not happen with the ASF virus and the cross-protection between different strains of the virus is currently [under evaluation](#). This means that no vaccine is currently available, therefore preventive measures, strict biosecurity, prompt reaction and communication are crucial for the control of the disease. There is currently no cure for the disease.

## How does ASF differ from classical swine fever?

African swine fever and classical swine fever (CSF) share a lot of similar [clinical signs](#): they can both cause fever, lethargy, breathing difficulty, vomiting, coughing, conjunctivitis, skin haemorrhages and death within 1 to 2 weeks. Both diseases can be transmitted directly and indirectly, with wild boars representing an important reservoir. However, only ASF presents dysentery and can be transmitted through arthropods (ticks) or rodents. CSF can give neurological signs instead.

Despite their similar pathogenic characteristics, ASF and CSF are triggered by two different viruses, both of which can survive in cold temperatures. Classical swine fever is caused by a small RNA virus of the *Flaviviridae* family. From the perspective of disease control, the fundamental [difference](#) between the two is the presence of an effective vaccination in the case of classical swine fever.

## Situation in the EU Member States

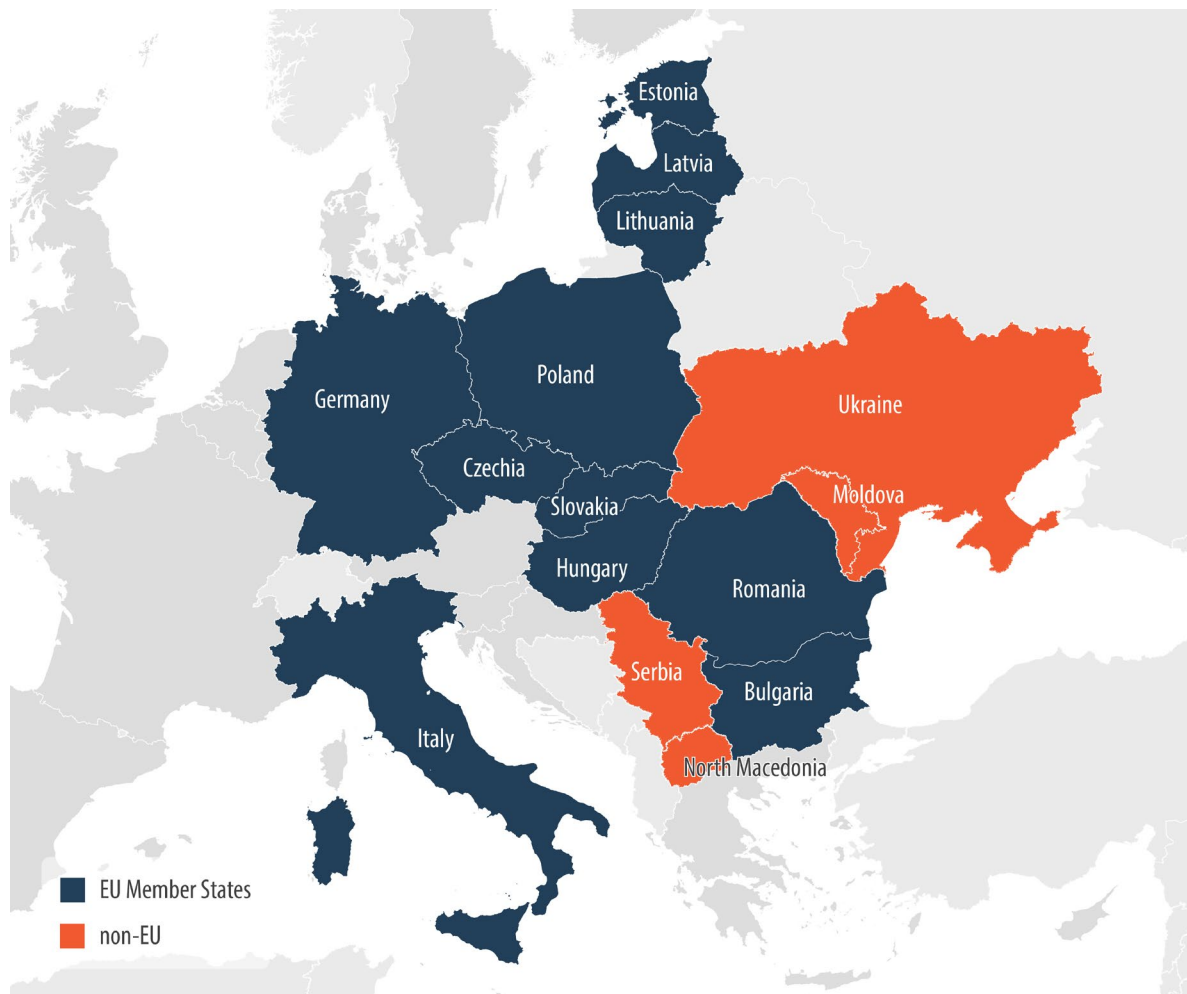
When an outbreak of African swine fever (or another [notifiable disease](#), defined by the World Organisation for Animal Health (WOAH) as 'transmissible diseases that have the potential for very serious and rapid spread, irrespective of national borders, that are of serious socio-economic or public health consequence and that are of major importance in the international trade of animals and animal products') is discovered, the competent authorities of the affected state must report it in the [EU Animal Diseases Information System](#) (ADIS).

Developed in collaboration with the [WOAH](#), this tool serves the purpose of simplifying data exchange between itself and the [World Animal Health Information System](#) (WAHIS), while also enabling the exchange of information between competent national authorities and tracking how the disease is progressing.

According to the [2022 ADIS report](#), a total number of 537 outbreaks of African swine fever were reported in domestic pigs in 12 European countries (8 of which EU Member States) and 7 442 outbreaks were reported in wild boars in 15 European countries (11 of which were EU Member States). In 2023, there was a substantial increase in outbreak numbers: between 1 January 2023 and 22 July 2023 alone, ADIS had already recorded 902 outbreaks in domestic pig populations in 16 European countries (10 of which were EU Member States) and 5 445 outbreaks in wild boar populations in 19 European countries (13 of which were EU Member States).

The [epidemiological analysis](#) in Europe has been developed by the European Food Safety Authority (EFSA). According to the British Department for Environment, Food and Rural Affairs' (DEFRA) [32nd Updated Outbreak Assessment](#) report on African swine fever in Europe, published in June 2023, ASF has been found, for the first time in domestic pig farms in Bosnia and Herzegovina and Croatia, and confirmed in wild boars in two further regions of Italy.

Figure 1 – European countries affected by ASF in 2022



Data source: [EFSA](#), 2023.

## European legislation

Detailed rules for the prevention and control of Category A diseases (such as ASF) are listed in [Commission Delegated Regulation \(EU\) 2020/687](#). According to Article 5, operators suspecting the presence of a Category A disease in an establishment must isolate all suspected animals as well as manure, litter and used bedding, and protect them from insects and rodents. They must also:

- implement additional biosecurity measures;
- cease all movements of kept animals to and from the establishment;
- prevent non-essential movements from the establishment;
- update production, health and traceability records;
- follow instructions from the competent authorities.

Article 12 describes the actions to be taken in case an outbreak is confirmed:

- all animals must be killed as soon as possible on the spot, within the establishment;
- all appropriate and necessary biosecurity measures must be taken;
- bodies or parts of kept animals which have died or have been killed must be disposed of in accordance with [Regulation \(EC\) No 1069/2009](#);
- all potentially contaminated products, materials or substances present in the establishment must be isolated until: they are disposed of or processed, cleaning and disinfection measures are completed, and disposal is completed under the supervision of official veterinarians.

Some derogations to these rules are provided for in Article 13.

The regulation also describes additional control measures, measures to be applied in the restricted zone (Article 22), measures to be applied in establishments in the protection zone (Article 25), specific condition for authorising the movements (Art.29 to Article 37), and the duration of the disease control measures in the protection zone (Article 39).

Chapter V describes measures in the event of a suspected outbreak (Article 62) or an outbreak (Article 63) of ASF in wild animals.

When an outbreak is confirmed in wild animals, the competent authorities must establish an operational expert group to assist the competent authority in assessing the epidemiological situation and its evolution, defining the infected zone, establishing the appropriate measures to be applied in the infected zone and their duration, and developing an eradication plan, when relevant.

[Commission Implementing Regulation \(EU\) 2021/605](#) lays out [special control measures](#) that are specifically targeted at ASF.

## Success stories in eradication

### Czechia

The disease was reported for the first time in June 2017, in two wild boars that had been found dead. All subsequent cases were found in wild animals (found dead or hunted) in an 89 km<sup>2</sup> area in the Zlín district. The actions taken for the eradication were:

- early detection through passive surveillance of found-dead wild boars plus intense monitoring;
- establishment of high-risk and low-risk zones, in compliance with the EU legislation;
- intensive search of wild boar carcasses and safe disposal;
- prohibition of hunting and feeding of wild boars;
- placement of electric fences at the border of the high-risk zone and ban on entry onto the area without permission;
- individual hunting in the infected area allowed only for approved hunters and after evaluation of surveillance results;

- ban on movement of pigs and pig products;
- official inspections of all pig farms;
- public information campaign.

The country was [declared free](#) from the disease in 2019.

## Belgium

The first outbreak of the disease was discovered on 13 September 2018 in a wild boar. The following measures were taken with regard to the wild boar population:

- hunting, forestry work and tourism in the infected zone were banned to avoid the spread of the disease;
- there was an intensive search for dead wild boars; bodies that were found were removed;
- wild boars (both found dead or hunted) were sampled, analysed and destroyed;
- a quick and complete depopulation was launched in the area surrounding the infected zone;
- more than 300 km of wild boar-proof fences were built.

Measures targeted at the domestic population included:

- continuous application of the biosecurity measures already in force, passive surveillance, heightened awareness;
- preventive culling of all the pigs in the provisional infected zone, a ban on repopulation: farmers were compensated for culling their animals and for the absence of activity during the ban on repopulation;
- restrictions on the movement of animals and a ban on their assembly;
- a yearly mandatory evaluation of biosecurity measures.

No cases among domestic animals have ever been reported in Belgium. The country regained its [free status](#) on 22 December 2020.

A 2020 article by Research publisher Frontiers, entitled '[African swine fever: lessons to learn from past eradication experiences. A systematic review](#)', provides examples of the successful eradication of African swine fever both in EU Member States and in third countries. The paper concludes that 'classical surveillance strategies, such as active and passive surveillance, both at farm and slaughterhouse levels, targeted surveillance, together with conventional biosafety and sanitary measures, led to eradication even in countries in which the tick's epidemiological role was demonstrated'.

## Impact on the economy

When African swine fever appears in a country, the impact on the economy is immediate and dramatic. In order to contain the disease, infected or at-risk animals must be culled and destroyed without undue delay, and reinforced biosecurity measures must be taken. At farm and producer level, this translates into a loss of the entire pig population (and consequent pork production), with a fall in revenues, together with an increase in costs for putting biosecurity measures in place. The drop in pork production generates market uncertainties and a disruption in the whole supply chain, from farmers to feed producers, and from slaughterhouses to processors and traders. Despite the disease being [non-zoonotic](#) – that is, humans are not susceptible and cannot be harmed by pork consumption or contact with sick animals – it also affects consumer confidence regarding the safety of pork products consumption, resulting in a decrease in demand and subsequent price fluctuation.

Internationally, in accordance with Article 6 of the [World Trade Organization's Sanitary and Phytosanitary Measures \(SPS\) Agreement](#), trade should continue outside restricted regions in accordance with the standards provided by the WOA. Trade partners should recognise the [regionalisation principle](#), which sets the borders of affected regions (from which animals and/or

their products cannot be moved or commercialised). The WOH standards, established to [protect trade partners](#) from the spread of the disease, may, nevertheless, lead to high trade barriers, especially where emerging requirements are difficult to comply with.

The EU provides [subsidies](#) for the eradication, control and prevention of some animal diseases. Table 1 below, presented by the [European Commission](#) during the meeting of the Standing Committee on Plants, Animals, Food and Feed Section Animal Health and Welfare of 14 March 2022, shows a summary of the co-financing rates per group of diseases and per year.

Table 1 – EU co-financing rates for veterinary programmes, per disease group and per year

Co-financing rate Allocation	2021	2022	2023	2024
Group 1: ASF – AI – rabies – <i>Salmonella</i>	50/75/100 € 62 421 000	50/75/100 € 72 898 000	50/75/100	50/75/100
Group 2: TSE – BV, OV and CP BRU – CSF – LSD – PPR – S&GP	30/45 35.3/53 € 27 556 000	30/45 28/42 € 21 623 000	30/45	30/45
BV Tub	16/24 € 16 976 000	12/18 € 12 441 000	10/15	–
Total allocation	€ 106 953 000	€ 106 962 000	Maxi € 107 000 000	Maxi € 107 000 000

Data source: [European Commission](#), 2022.

## Is there a vaccine in sight?

The lack of a vaccine for ASF is a worldwide problem.

In an [interview](#) from September 2022, Dr Dustin Oedekoven, chief veterinarian of the US National Pork Board, explained that, despite progress in the research, the ASF virus is a category all by itself, with no similarity to other known viruses which can be studied. In addition, the ASF virus is a large virus, coding for several proteins and making the development of a vaccine a very difficult task.

The 2017 [working document](#) on 'Blueprint and Roadmap on the possible development of a vaccine for African Swine Fever', prepared by the African Swine Fever EU reference laboratory at the Commission's request, examined the current vaccines that were being studied and concluded that, while a Live Attenuated Vaccine (LAV) has the potential to be a candidate for commercialisation, major gaps needed to be addressed. In 2020, a [scientific study](#) clarified that the use of LAVs is controversial mainly owing to biosafety concerns relating to their intrinsic infectious nature.

In 2022, the [Friedrich-Loeffler-Institut](#) stated that LAV could be a potential solution, yet vaccines could not substitute measures involving strict biosecurity, improved management or culling.

The [VACDIVA project](#), launched in 2019 with €10 million in EU funding, aims to develop a vaccine against ASF by 2024. The project is a collaborative effort between two world reference laboratories for African swine fever, seven EU national reference laboratories, four research centres, and two leading companies in the production of vaccines. According to the latest [press release](#) of the European Animal Research Association, there are three vaccines under testing.

## Stakeholder position

The European Federation for Hunting and Conservation (FACE) highlights the importance of hunters in the early [monitoring](#) and fighting of ASF in Europe. Hunters often are the first to find carcasses or sick animals in the wild. In addition, [intensive hunting](#) is crucial to reduce the risks of outbreaks. The

association also stresses the importance of biosecurity measures in already infected areas, together with awareness campaigns. FACE released [recommendations](#) for hunters and hunting associations, before and after the discovery of an outbreak.

[Animal Health Europe](#), representing the veterinary medicine industry, recognised the difficulty in developing an effective vaccine. The group called for an increase in available funding for the research and for a coordinated work between policymakers and researchers. Animal Health Europe also stated that vaccines should not be used as a trade barrier.

[Copa-Cogeca](#), representing farmers and agri-cooperatives in the EU, highlighted the importance of controlling the disease in wild animals, responsible for the transmission to domestic population. The association recalled that ASF is not a public health threat but causes huge economic losses for farmers. The organisation considers maintaining appropriate biosecurity measures one of the most effective methods to avoid the spread.

The Federation of Veterinarians of Europe (FVE) and European Association Porcine Health Management (EAPHM), in a [joint press statement](#), underlined the devastating effects the disease has on pig farms, with huge economic losses, and on animal welfare, putting also food security at risk. The two associations offered their knowledge and their network to support veterinarians dealing with the disease.

## European Commission

In 2020, the European Commission revised its [Strategic approach to the management of African Swine Fever for the EU](#). The guidance document, written in accordance with the [latest findings](#) provided by the European Food Safety Authority (EFSA), seeks to promote harmonised measures to prevent and control the spread of ASF, but also to help in a possible eradication. Differences between Member States are taken into account and the different procedures should adapt to the level of risk in each country, but also to veterinary service organisation and national legislation.

The Commission is actively engaged in the eradication of the disease, including through training for officials in Member States and neighbouring countries, the so-called [BTSE](#) (Better Training for Safer Food) initiative. Once or twice a year a BTSE on African swine fever is launched to update or reinforce the knowledge of officials on the disease. The Commission takes and supports different [initiatives](#), for example it organises [conferences](#) and [ministerial conferences](#), releases [videos](#), factsheets (like the one on the [latest developments](#) and the [role of hunters](#)) and [animations](#), and keeps all interested parties well updated on the EU zoning through an [interactive tool](#).

During the High-Level Ministerial Meeting on African swine fever, held on 27 September 2022, the Commissioner Stella Kyriakides [referenced](#) the support and interest of the Commission in the development of an effective vaccine against ASF, together with an improved management of wild boars, effective prevention, control and eradication measures, and strategic use of the of the Common Agriculture Policy (CAP) for disease prevention.

Upon receipt of a request of the concerned Member State, the EU co-finances at 50 % the farm losses arising from measures taken to combat the spread of the disease ([Regulation \(EU\) 2021/690](#), Annex I, point 1.4.1 and point 2.1, and [Regulation \(EU\) No 1308/2013](#), article 220), and a compensation up to 100 % is also possible through the [State Aid rules](#).

An important [initiative for the Global Control of African swine fever](#) was launched by the Food and Agriculture Organization of the United Nations and the WOA. H.

## Council position

At the end of 2022, the Council [highlighted](#) that the Member States had faced an unprecedented number of disease outbreaks, posing a serious risk for the economy, the activity of farmers and animal keepers, in addition to the animal population. The Council noted that, in the context of the 2021-2027 multiannual financial framework, the Commission had proposed a reallocation of funds

that would lead to lower rates in retroactive co-financing for emergency measures. The Council called on the Commission to start a strategic discussion with the Member States on future measures and programmes, without reducing the resources allocated for the food chain strand or emergency measures.

## European Parliament position

In 2016, the European Parliament endorsed the so-called [Animal Health Law](#) (AHL), which introduced a single regulatory framework to group and simplify the legislation in place. The AHL was then complemented by delegated and implementing acts, giving flexibility based on the evolution of the situations. MEPs included provisions [asking](#) for both Parliament and the Council to be involved in the drawing-up and updating of a list of potentially dangerous diseases, such as African swine fever, avian influenza or foot and mouth disease, in consultation with European Food Safety Authority (EFSA) experts.

During the current term (2019-2024), approximately 50 Parliamentary Questions were tabled to the European Commission. Just to name a few, members were mainly concerned about additional [funding](#) for farmers, [measures](#) to combat African swine fever (length of restriction period, development of a [vaccine](#), and commercialisation of meats), but also on the [strategy](#) the Commission followed for the eradication.

Additional questions focused on the animal health situation in specific countries ([Romania](#), [Bulgaria](#), [Italy](#) and [Sardinia](#), [Poland](#), [Germany](#), and [Turkey](#)), the possible revision of [hunting](#) rules for containment of the disease, and the impact on [trade](#) with main [partners](#) owing to the rise in [prices](#).

## MAIN REFERENCES

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