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African Swine Fever: Chronicle of a Foreseen Possibility

African Swine Fever: Chronicle of a Foreseen Possibility

Abstract:

On 28 November, the first outbreak of African swine fever (ASF) detected in Spain in three decades was confirmed after several wild boar were found dead in the Collserola mountains (Cerdanyola del Vallès, Barcelona). The swift intervention of veterinary services and diagnostic confirmation by Algete Reference Laboratory immediately triggered national and regional Contingency Plans. Measures implemented include the establishment of a 6-km infected zone and a 20-km surveillance zone, closure of access to natural areas, suspension of hunting and forestry activities, installation of barriers and traps, and reinforcement of biosecurity measures on pig farms. Although no cases have been detected in domestic livestock, the increasing number of dead wild boar has required the deployment of the Military Emergency Unit (UME), security forces and rural agents.

Investigations into the origin of the outbreak suggest that the most plausible hypothesis is the introduction of the virus through contaminated food waste discarded in transit areas, consistent with patterns observed in other European outbreaks. Other possibilities, such as natural migration of wild boar or laboratory biosecurity failures, are considered unlikely or unsupported. Initial genomic analyses place the virus within genotype II, the predominant strain in Europe.

The role of the specialised CBRN defence units is essential for controlling outbreak, in oordination with veterinary services and other agencies. Their experience in biosecurity and biological emergencies strengthens operational capacity to contain the outbreak and mitigate its impact.

Overall, the episode highlights the effectiveness of surveillance and early-response systems and underscores the need to maintain strict biosecurity measures, proper wildlife management, and strong inter-institutional coordination to protect animal health and the stability of the swine sector. here….

KeywordsPalabras clave:

African Swine Fever, ASF, Biosecurity, epidemic outbreak, Armed Forces, Emergency Military Unit, Civil Guard.

Peste Porcina Africana: Crónica de una posibilidad anunciada

Resumen:

El 28 de noviembre se confirmó en España el primer foco de peste porcina africana (PPA) en tres décadas tras detectarse varios jabalíes muertos en la sierra de Collserola. La rápida intervención de los servicios veterinarios y la confirmación diagnóstica del Laboratorio de Algete activaron de inmediato el Plan de Contingencia estatal y autonómico. Las medidas aplicadas incluyen la creación de una zona infectada de 6 km y otra de vigilancia de 20 km, el cierre de accesos al medio natural, la suspensión de actividades cinegéticas y forestales, así como el refuerzo de la bioseguridad en las explotaciones porcinas. Aunque no se han detectado casos en ganado doméstico, el aumento de jabalíes muertos ha requerido la movilización de efectivos de las Fuerzas y Cuerpos de Seguridad, la UME y agentes rurales.

Las investigaciones sobre el origen del brote señalan como hipótesis más plausible la introducción del virus a través de restos alimentarios contaminados abandonados en áreas de tránsito, siguiendo patrones similares a brotes en otros países europeos. Alternativas como la migración de jabalíes o fallos de bioseguridad en laboratorios se consideran poco probables o sin evidencia. Los primeros análisis genómicos sitúan el virus dentro del genotipo II, dominante en Europa.

El papel de las unidades especializadas de defensa NBQ es fundamental controlar el brote, actuando de forma integrada con los servicios veterinarios y otros organismos. Su experiencia en bioseguridad y emergencias biológicas refuerza la capacidad operativa para contener el brote y mitigar su impacto.

En conjunto, el episodio confirma la solidez de los sistemas de vigilancia y respuesta temprana, y subraya la necesidad de mantener medidas estrictas de bioseguridad, una adecuada gestión de fauna silvestre y una coordinación interinstitucional eficaz para proteger la sanidad animal y la estabilidad del sector porcino.

Palabras clave:

Peste Porcina Africana, PPA, Bioseguridad, Brote epidémico, Fuerzas Armadas, Unidad Militar de Emergencias, Guardia Civil,

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Introduction

On November 26, all alarms were triggered in the official veterinary services after two wild boars were found dead in Cerdanyola del Vallès (Barcelona). Immediately, and following the wildlife health surveillance protocol, samples were sent to the Animal Health Research Center (CReSA), where the first analyses detected the presence of the African swine fever (ASF) virus[1,2]. Subsequently, the Central Veterinary Laboratory in Algete, a Reference Laboratory under the Ministry of Agriculture, Fisheries and Food, confirmed the diagnosis. The much-feared pathogen had finally reached Spain once again[3,4].

After the first two positive cases[5], the Autonomous Government of Catalonia reported the appearance of four additional wild boars dead from ASF in the area, bringing the total to at least six infected wild animals in the Collserola mountain range, near the Autonomous University of Barcelona (UAB) campus in Bellaterra. Public statements specified that, up to that moment, no cases had been detected in domestic pig farms but emphasized the virus's high capacity for spread. Following the detection of the

All internet references were consulted on December 2, 2025.

.1 SERVEI DE PREVENCIÓ EN SALUT ANIMAL (2016). Programa de Vigilància Sanitària de la Fauna Salvatge a Cataluya. Subdirecció General de Ramaderia - Servei de Prevenció en Salut Animal. Direcció General d'Agricultura i Ramaderia. Departament d'Agricultura, Ramaderia, Pesca i Alimentació. Generalitat de Catalunya [pág. web]. Disponible en: https://agricultura.gencat.cat/web/.content/07-ramaderia/sanitat-animal/vigilancia-sanitaria-fauna-salvatge/enllacos-documents/fitxers-binaris/pla-vigilancia-sanitaria-fauna-salvatge-catalunya.pdf

2 MINISTERIO DE AGRICULTURA, PESCA Y ALIMENTACIÓN (2019). Guía Vigilancia Sanitaria Fauna Salvaje. Ayúdanos mantener la salud del campo. Gobierno de España [pág. web]. Disponible en: https://www.mapa.gob.es/dam/mapa/contenido/ganaderia/temas/sanidad-animal-e-higiene-ganadera/sanidad-animal/enfermedades/fauna-silvestre/guiavigilanciasanitariafaunasilvestre.pdf

3 SUBDIRECCIÓN GENERAL DE SANIDAD E HIGIENE ANIMAL Y TRAZABILIDAD (2025). Detección de Peste Porcina Africana en jabalíes silvestres en Cataluña 28/11/2025 (nota de prensa). Dirección General de Sanidad de la Producción Agroalimentaria y Bienestar Animal - Ministerio de Agricultura, Pesca y Alimentación [pág. web] 28 de noviembre de 2025. Disponible en: https://www.mapa.gob.es/dam/mapa/contenido/ganaderia/temas/sanidad-animal-e-higiene-ganadera/sanidad-animal/noticias-sanidad-animal/documentos-de-noticias/nota-1--foco-ppa-jabalies-silvestres-cataluna--2

4 EFE. (2025). La Generalitat activa el plan de contingencia frente a la peste porcina africana. investing.com [pág. web] 28 de noviembre de 2025. Disponible en: https://es.investing.com/news/stock-market-news/la-generalitat-activa-el-plan-de-contingencia-frente-a-la-peste-porcina-africana-3414250

5 According to the protocol established in the Disease Control Programs, all samples testing positive for an infectious agent must be confirmed by the designated Reference Laboratory, in this case the Algete Laboratory.

disease in Spain, the European Union, classifying ASF as a category A disease, urged Spain to apply control measures[6].

The Catalonian Department of Agriculture activated the ASF Contingency Plan[7], which was automatically implemented once cases in wildlife were confirmed. An infected zone with a 6-km perimeter around the outbreak in Collserola was initially established, leading to the closure of access to natural areas, prohibition of hunting activities, forestry work, and recreational activities, as well as the installation of physical and chemical barriers and wild boar traps. These restrictions directly affected forests in 12 municipalities (protection zone) and were subsequently expanded to a total of 76 municipalities surrounding Collserola and Vallès (surveillance zone extending 20 km from the outbreak)[8,9].

Official recommendations to the public from both the Ministry of Agriculture and the Catalan Government have stressed raising public awareness, urging citizens not to enter restricted areas and to take extreme biosecurity measures to avoid “transporting” the virus on contaminated vehicles, bicycles, or footwear. They emphasize that ASF is a viral disease exclusive to the genus Suis (pigs, wild boars, and African wild pigs) and poses no risk to humans or other animal species, whether through direct contact or consumption, even in the hypothetical case that meat products from an infected animal entered the food chain[10].

6 RTVE.es / AGENCIAS. (2025). Detectados cuatro nuevos casos de peste porcina africana en jabalíes muertos en Cataluña. RTVE [pág. web] 29 de noviembre de 2025. Disponible en: https://www.rtve.es/noticias/20251129/peste-porcina-africana-cataluna-nuevos-casos/16837659.shtml

7 SERVEI DE SANITAT ANIMAL (2025). Pla de contingència enfront la Pesta Porcina Africana (PPA). Obtenido de Direcció General d'Agricultura i Ramaderia - Departamento de Agricultura, Ganadería, Pesca y Alimentación - Generalitat de Catalunya [pág. web] 01 de octubre de 2025. Disponible en: https://agricultura.gencat.cat/web/.content/07-ramaderia/sanitat-animal/pesta-porcina-africana/enllacos-documents/fitxers-binaris/pla-contingencia-pesta-porcina-africana.pdf

8 EL SALTO (2025). Seis casos de peste porcina africana en Cataluña obligan a blindar 76 municipios y limitar el acceso al bosque. El Salto [pág. web] 29 de noviembre de 2025: https://www.elsaltodiario.com/cataluna/seis-casos-peste-porcina-africana-cataluna-obligan-blindar-76-municipios-limitar-acceso-al-bosque#

9 DEPARTAMENT D'AGRICULTURA, RAMADERIA, PESCA I ALIMENTACIÓ. (2025). Resolución ARP/4435/2025, de 29 de noviembre, por la que se declara un foco de peste porcina africana (PPA), la relación de zonas de protección y vigilancia adyacentes al mismo y las medidas de prevención y lucha contra la enfermedad. Diari Oficial de la Generalitat de Catalunya [pág. web] 28 de noviembre de 2025. Disponible en: https://portaldogc.gencat.cat/utilsEADOP/PDF/9553/2122148.pdf

10 ANIMAL'S HEALTH. (2025). Planas llama a la calma y a la prudencia tras la reaparición de la peste porcina africana en España. Animal's Health [pág. web] 29 de noviembre de 2025. Disponible en: https://www.animalshealth.es/politica/planas-llama-a-la-calma-prudencia-tras-reaparicion-peste-porcina-africana-ppa-espana

In this regard, it is important to recall the existing ban on feeding pigs or wild boars with human food waste that might contain viable virus particles originating from infected animals that may have entered commercial channels, considering the high resistance of the virus. This highlights the importance of properly disposing of food waste to avoid contributing to its spread[11].

The swine sector was reminded of its obligations to immediately report any suspected cases of the disease to veterinary services, to reinforce biosecurity measures on farms, and to control movements. Meanwhile, the Ministry of Agriculture and the Catalan Government coordinated intensive wildlife surveillance with Rural Agents, Mossos d'Esquadra, SEPRONA, and official veterinary services[12].

Evolution of the outbreak

On November 29, four new suspected cases were detected, with no cases found in any of the 39 pig farms—both family-run and industrial—located within the controlled areas. However, the number of wild boars found dead in the area has continued to rise. Thus, on December 1, according to press reports, 40 dead wild boars were detected because of the implemented contingency plan, with confirmation still pending[13,14].

To contain the outbreak, the Government of Catalonia activated the contingency plan which, as previously mentioned, includes the closure of a 6-km radius around the outbreak, covering 12 municipalities such as Sabadell, Terrassa, and Rubí, with a ban on activities in natural areas to prevent spread. More than 250 personnel have been deployed, including Mossos d'Esquadra, Rural Agents, and local police, along with the

11 GENCAT (2025). Restricción al medio natural por la peste porcina africana. GENCAT [pág. web] 28 de noviembre de 2025. Disponible en: https://web.gencat.cat/es/actualitat/detall/Restriccio-dacces-al-Parc-de-Collserola-per-la-peste-porcina

12 PUENTE, A. (2025). Catalunya detecta cuatro nuevos casos de peste porcina africana y cierra los bosques de 12 municipios. El Diario (edición digital). 29 de noviembre de 2025. Disponible en: https://www.eldiario.es/catalunya/detectados-cuatro-nuevos-casos-peste-porcina-africana-zona-primeros_1_12807175.html

13 NEWSROOM INFOBAE. (2025). Detectados cuatro nuevos casos de PPA en jabalís muertos en Collserola (Barcelona). Infobae [pág. web]: 01 de diciembre de 2025. Disponible en: https://www.infobae.com/america/agencias/2025/11/29/detectados-cuatro-nuevos-casos-de-ppa-en-jabalis-muertos-en-collserola-barcelona/

14 ANIMAL'S HEALTH. (2025). Hallados 40 jabalíes muertos en el área afectada por peste porcina africana en Cataluña. Animal's Health [pág. web] 1 de diciembre de 2025. Disponible en: https://www.animalshealth.es/porcino/hallados-40-jabalies-muertos-area-afectada-peste-porcina-africana-ppa-en-cataluna

Military Emergency Unit (UME) to support the search for carcasses and sanitary culling[15]. In addition, all wild boars hunted in surveillance zones must be tested, and hunting is prohibited in the infected area, with hunters being incorporated into epidemiological surveillance[16,17].

On December 2, the Spanish Government's delegate in Catalonia reported that the number of wild boars dead from ASF had risen to six, although the Ministry of Agriculture later updated the figure to nine in Cerdanyola del Vallès (Barcelona). The Catalan Government had already detected around 40 wild boar carcasses in the affected area during search efforts following the first positive cases. The Ministry is maintaining the planned protocol and continues coordinating with Catalonia to reinforce surveillance and monitor the evolution of the outbreak.

Surveillance involves multiple bodies, including the Catalonian Autonomous Government, the UME, Mossos d'Esquadra, the Civil Guard, and local police, who are reinforcing access controls and vehicle disinfection. More than 200 personnel have been mobilized in total, in addition to drones and specialized teams.

No symptoms or positive cases have been detected in pig farms in the area, although biosecurity and surveillance have been strengthened throughout Catalonia and the rest of Spain. An emergency veterinary team from the European Commission has also been deployed to assess the measures in place[18].

For his part, Òscar Ordeig, from autonomous government, has announced the creation of a group of scientific experts to assess the status of ASF vaccines, study the origin of

15 Sanitary culling consists of a process of thorough cleaning and disinfection of livestock facilities, which includes the removal of animals (or the entire group), the disposal of bedding, and the deep cleaning of all surfaces to break the disease transmission cycle and eliminate pathogens. It is a key component of health management in cases of animal diseases.

16 HERNÁNDEZ TÉLLEZ, L. (2025). El Govern capturará a los jabalíes infectados para controlar la peste porcina africana: Cataluña pide la intervención de la UME. Infobae [pág. web] 30 de noviembre de 2025. Disponible en: https://www.infobae.com/espana/2025/11/30/el-govern-capturara-a-los-jabalies-infectados-para-controlar-la-peste-porcina-africana-cataluna-plantea-la-intervencion-de-la-ume/

17 HERNÁNDEZ TABERNERO, I. (2025). Cataluña activa su plan contra la peste porcina: así afecta a los cazadores. jaraysedal (edición electrónica) 1 de diciembre de 2025. Disponible en: https://revistajaraysedal.es/cataluna-plan-peste-porcina-cazadores/

18 ANIMAL'S HEALTH. (2025). El Ministerio de Agricultura comparte detalles sobre los nuevos casos de peste porcina africana en España. Animal's Health [pág. web] 2 de diciembre de 2025. Disponible en: https://www.animalshealth.es/porcino/ministerio-agricultura-comparte-detalles-nuevos-casos-peste-porcina-africana-ppa-espana

the virus, and review measures applied in other countries. He also stated that urgent actions will be implemented to reduce the wild boar population, a new biosecurity plan will be introduced for all pig farms, and additional measures will be promoted to contain the outbreak[19].

The President of the Government has stated that Spain has recorded its first ASF outbreak in 30 years after detecting the virus in two wild boars found dead in Bellaterra (Barcelona). The Government has activated national and European protocols to contain the disease, which does not affect humans but represents an economic risk to Spain's important swine sector. The President affirmed that the situation is "under control" and called for prudence. He explained that the actions of the central Government and the Catalan Government focus on two objectives:

- Extinguishing the outbreak by strengthening biosecurity and controls, with support from the UME in the affected area.
- Protecting exports, highlighting that China will keep its pork imports from Barcelona open.

He also assured that the Government will support the sector and that the priority is to eliminate the outbreak and ensure access to international markets[20].

A relevant aspect of disease control is the need to manage wild boar populations to contain the outbreak through the establishment of highly controlled hunting operations, preventing animals from fleeing and contributing to the spread of the disease beyond the perimeter. This population-control policy may generate social opposition, making an information campaign to the public necessary to emphasize the importance of this critical measure for effective disease control.

19 ANIMAL'S HEALTH. (2025). Aumenta el número de casos positivos por peste porcina africana en jabalíes de España. l, de Animal's Health [pág. web] 2 de diciembre de 2025. Disponible en: https://www.animalshealth.es/porcino/aumenta-numero-casos-positivos-peste-porcina-africana-ppa-jabalies-espana

20 ANIMAL'S HEALTH. (2025). Pedro Sánchez se pronuncia sobre la crisis de la peste porcina africana en España. Recuperado el 2 de diciembre de 2025, de Animal's Health [pág. web] 2 de diciembre de 2025. Disponible en: https://www.animalshealth.es/politica/pedro-sanchez-pronuncia-sobre-crisis-peste-porcina-africana-ppa-espana

Hypotheses on the origin of the Outbreak

At the time of writing this document, it is unknown how the virus may have reached Spain.

The initial hypotheses regarding the emergence of ASF in Spain carry a very high level of uncertainty and must be considered with caution pending the results of genomic studies to be conducted on samples from the animals, as well as the results of the epidemiological investigations[21]. At this stage, it is not possible to speak in terms of probability, although some hypotheses appear more plausible than others[22,,23].

Below are the main hypotheses, listed in order of possibility, though not probability.[24,25,26,27,28,29].

1. Contaminated food waste (the “Sandwich Theory”): This is considered the most plausible hypothesis for the virus’s entry into national territory. It proposes that

21 This type of analysis, based on genetic sequencing, makes it possible to trace the causal agent, understand the relationship between outbreaks, and even track transmission between individuals.

22 ANIMAL'S HEALTH. (2025). La peste porcina africana llega a España: Primer foco en jabalí en Cataluña. Recuperado el 30 de noviembre de 2025, de Animal's Health [pág. web] 28 de noviembre de 2025. Disponible en: https://www.animalshealth.es/porcino/peste-porcina-africana-llega-espana-primer-foco-jabali-cataluna

23 LÓPEZ, A. R. (2025). Lo que se conoce hasta el momento sobre el foco de peste porcina africana en España: Así se vivieron los primeros días tras la detección. Animal's Health [pág. web] 28 de noviembre de 2025. Disponible en: https://www.animalshealth.es/porcino/que-se-conoce-hasta-momento-sobre-foco-peste-porcina-africana-espana-asi-se-vivieron-primeros-dias-tras-deteccion

24 GUINAT, C., GOGIN, A., BLOME, S., KEIL, G., POLLIN, R., PFEIFFER, D. U., & DIXON, L. (2016). Transmission routes of African swine fever virus to domestic pigs: current knowledge and future research directions. Vet. Rec., 178(11), 262-267. doi:10.1136/vr.103593

25 CERRILLO, A. (2025). La peste porcina mantiene en vilo exportaciones por valor de 3.000 millones desde Catalunya. La Vanguardia (Edición digital). 1 de diciembre de 2025, de: https://www.lavanguardia.com/natural/20251201/11319472/restos-bocadillo-embutido-infectado-posible-origen-brote-peste-porcina-africana.amp.html

26 GALVIS, J. A., & MACHADO, G. (2022). The role of vehicle movement in swine disease dissemination: novel method accounting for pathogen stability and vehicle cleaning effectiveness uncertainties. arxiv. doi:arXiv:2212.07466v2

27 LEKIN, T. (2024). How Feed Vehicles Impact Disease Transmission: Findings from Recent Research. American Feed Industry Association [pág. web] 30 de julio de 2024. Disponible en: https://www.afia.org/news/afia-blog/how-feed-vehicles-impact-disease-transmission-findings-from-recent-research/

28 SALINAS, A. (2025). ¿Cómo ha llegado a Barcelona la peste porcina africana? El Govern da algunas teorías. Diario La Razón (edición digital). 1 de dciembre de 2025, Disponible en: https://www.larazon.es/cataluna/como-llegado-barcelona-peste-porcina-africana-govern-algunas-teorias_20251201692db1da6e5e5012dcd6296d.html

29 SOMOS AGRO. (2025). Cobra fuerza la hipótesis de que la peste porcina africana llegó a Cataluña en un bocadillo. La Voz de Galicia (edición digital). 1 de diciembre de 2025. Disponible en: https://www.lavozdegalicia.es/noticia/somosagro/2025/12/01/cobra-fuerza-hipotesis-peste-porcina-africana-llego-bocadillo/00031764595570229497512.htm

pork-based food waste may have been discarded in rest areas or service stations along major roads—particularly the AP-7 near Bellaterra and Collserola—and later consumed by wild boars that became infected through ingestion.

A related possibility is that the virus may have entered Spain via meat products brought by individuals traveling from European countries with active ASF, whose leftovers could have been discarded in waste sites accessible to wild boars, thus infecting them.

This hypothesis is supported by the heavy use of the area by transport workers who rest and stop there, which may favor indirect transmission through contaminated meat or meat products, as well as contaminated materials, vehicles, clothing, or feed. (Direct transmission through blood or animal-to-animal contact also exists—though not via airborne routes—as well as through scavenging of carcasses of ASF-infected wild boars, given their scavenging habits, but this possibility currently appears to be completely ruled out. The involvement of soft ticks, which contribute to virus transmission under natural circumstances, is also discarded.)

Evidence supporting these related hypotheses includes the location of the first dead wild boars—near the Bellaterra campus of the Autonomous University of Barcelona—and the epidemiological patterns of previous outbreaks in Belgium and Italy, which appear to have followed similar routes of introduction and dissemination.

2. Virus transported indirectly via contaminated vehicles: Tangentially related to the previous hypothesis, this scenario proposes that the virus, given its extreme environmental resistance, may have adhered to the wheels or undersides of muddy vehicles entering Spain overland from affected regions where the virus is present. This would imply a potential biosecurity failure in vehicle cleaning and disinfection procedures. For the virus to infect susceptible animals, contaminated mud or similar material would be needed to meet food waste or be deposited in areas where wild boars forage.
3. Natural migration of infected wild boars: This hypothesis is considered highly unlikely because no cases have been reported in pigs or wild boars in France, and the geographically nearest outbreak to Spain is the one Italy experienced this year. If outbreaks had occurred in wild boars in France,

a sylvatic transmission cycle could potentially have brought the virus to Spain. The geographical disconnection from other European outbreak areas makes this a remote possibility.

4. Illegal importation of wild boars for hunting purposes: This hypothesis is considered unlikely, as the state of wild boar populations on the Iberian Peninsula makes this scenario implausible, and it has been dismissed due to a lack of scientific evidence.
5. Laboratory escape theory: A hypothesis circulating on social media, but currently lacking any scientific evidence, is that the virus may have escaped from a laboratory handling or storing ASF because of a biosecurity or biocontainment breach, either accidentally or through improperly treated materials that had been in contact with infected animals. IRTA-CReSA itself has denied any indication of a laboratory leak and emphasizes its strict biosecurity protocols[30,31].

   These rumors, rather than true hypotheses, related to ASF are an example of how “fake news” can undermine public health responses. There is no evidence to justify this hypothesis from any laboratory in Catalonia, and promoting unfounded explanations can generate misinformation[32].

Beyond these hypotheses, two additional scenarios must be mentioned. They carry an even greater level of uncertainty and lack plausibility, but due to the current international security environment, they cannot be completely dismissed:

- A scenario approaching conspiracy theory territory: intentional introduction of the virus into Spanish territory as part of hybrid strategies within a grey-zone framework to target national interests.

30 Instituto de Recerca i Tecnologia Agroalimentàries – Centre de Recerca en Sanitat Animal.

31 DIUMENJÓ SEGALÀ, A. (2025). El IRTA-CReSA garantiza la seguridad del laboratorio frente a las especulaciones del origen de la peste porcina. Ara (edición digital) 1 de diciembre de 2025. Disponible en: https://es.ara.cat/ciencia-tecnologia/irta-descarta-origen-peste-porcina-sea-laboratorio-collserola-bunker_1_5579868.html

32 TROTTA , A., MARINARO, M., CAVALLI, A., CORDISCO, M., PIPERIS, A., BUONAVOGLIA, C., & CORRENT, M. (2022). African Swine Fever—How to Unravel Fake News in Veterinary Medicine. Animals (Basel). 2022;12(5):656. doi: 10.3390/ani12050656

- An agroterrorism or military use scenario involving biological agents, whether by state or non-state actors. Based on available information, this falls squarely into the realm of fiction, but hypothetical scenarios should not be entirely ignored[33].

Confirmation of any of these hypotheses depends entirely on the results of investigations into the genome or genomes of the circulating virus responsible for the outbreak. Hence the importance of conducting genetic sequencing to compare it with viruses involved in other outbreaks that occurred this year. This could lend greater credibility to some of the circulating hypotheses.

In this regard, initial genomic studies confirm that the ASF virus found in wild boars in Spain is genotype II, the same circulating in Europe. Further genomic analyses will be required to determine more precisely the virus involved. Unfortunately, knowing the origin of the virus would increase the degree of confidence in the hypotheses described above.Asociadas a estas hipótesis no se puede dejar de citar dos posibles escenarios que presentan un nivel de incertidumbre más elevado si cabe de lo anteriormente expuesto, pero derivado del entorno internacional de seguridad no pueden descartarse, a pesar de su ausencia de plausibilidad[34].

Military capabilities against the spread of the virus

This document could not be concluded without explicitly acknowledging the role that the Armed Forces and the Security Forces can play in confronting this challenge, which is pushing our response capacity to the limit and threatening our future as an exporting power.

In this regard, the following sections highlight the capabilities of specialized CBRN (Chemical, Biological, Radiological, and Nuclear) defense units, the role of the UME (Military Emergency Unit) in general, and the GIETMA (Technological and Environmental Emergency Intervention Group) in particular, as well as the CBRN-

33 CIQUE MOYA, A. (2018). Virus de la peste porcina africana: el enemigo en el corazón de Europa. bie3: Boletín IEEE (Instituto Español de Estudios Estratégicos) 2018;12:684-699. Disponible en: https://www.ieee.es/Galerias/fichero/docs_opinion/2018/DIEEEO124_2018ALBCIQ-VPPA.pdf

34 ANIMAL'S HEALTH. (2025). Confirman que el virus de la peste porcina africana hallado en jabalíes en España es el genotipo II, el mismo que circula en Europa. Animal's Health [pág. web] 2 de diciembre de 2025. Disponible en: https://www.animalshealth.es/porcino/confirman-que-virus-peste-porcina-africana-ppa-hallado-jabalies-espana-es-genotipo-ii-circula-europa

capable units of the Civil Guard, all integrated as required for the fight against ASF in Spain.

GIETMA and the specialized CBRN defense units possess advanced training, specific equipment, and operational protocols to operate in biological scenarios marked by high environmental resistance. Their experience in previous emergencies, such as the COVID-19 pandemic, activates their command-and-control capabilities and their expertise in decontamination, especially in affected areas, thanks to qualified personnel and technical resources. GIETMA thus constitutes a key element for effective and efficient intervention.

The UME has personnel prepared to operate under strict biosecurity parameters, reducing the risk of becoming mobile vectors of the virus. Veterinary Officers of the Military Health Corps can advise operational command, while the Civil Guard contributes its ability to operate in CBRN environments and its knowledge of the terrain, ensuring effective control in both livestock sectors and wildlife. Coordinated employment of military personnel and security forces, specially trained to operate with the appropriate level of individual protective equipment, is essential for containing the disease.

Additionally, Civil Guard personnel trained and qualified to operate in biological and CBRN environments may prove crucial to achieving disease control, not only because they are law-enforcement officers but also because they possess specialized equipment and a territorial deployment that gives them an in-depth understanding of local conditions and allows them to work closely with the population.

Personnel from the Armed Forces and the Security Forces, particularly the Civil Guard, are trained to operate with adequate individual protective equipment, making them a fundamental asset in the fight against the virus.

Based on their assigned missions, the Armed Forces can contribute to Detection, Identification, and Monitoring (DIM) activities applicable to environmental samples, providing operational command with real-time information.

The reconnaissance capabilities of CBRN units facilitate the integration of homogeneous teams and improve the efficiency of light and heavy decontamination

missions, helping to prevent viral spread from controlled areas. Moreover, their territorial deployment contributes to preventing uncontrolled wild boar movement, one of the most problematic reservoirs.

Specialized CBRN defense units, which may include Veterinary Officers, can effectively reinforce official veterinary services in situations where the scale of the outbreak exceeds civilian operational capacity, especially in large farms or multiple-outbreak scenarios. Their intervention enables:

- Control of access points and biological perimeters.
- Deployment of temporary decontamination infrastructure.
- Safe management of potentially contaminated materials.
- Support in sampling and transport under strict biosecurity.

The intervention of specialized CBRN defense units can support an immediate response through the establishment of safe corridors, optimization of biological containment procedures, and minimization of passive spread. In this way, they can efficiently and effectively help reduce the duration and extent of the ASF outbreak, limiting economic losses in the swine sector, avoiding disruptions in the supply chain, and protecting associated industries from feed to exports[35].

The deployment of specialized CBRN defense units promotes interdisciplinary coordination among animal health, civil protection, the armed forces, and local authorities under a unified response framework. Additionally, STRATCOM and Cyber-related capabilities help monitor public perception and adapt communication policies accordingly.

Ultimately, the Armed Forces and the Security Forces, especially the Civil Guard, constitute an essential resource in the epidemic we are facing, ensuring an integrated, safe, and efficient response to contain a biological agent with major economic impact.

35 PFEIFFER, D. U., HO, H. P., BREMANG, A., KIM, Y., & EQUIPO DE LA OIE (2021). Directrices de compartimentación Peste Porcina Africana. París (Francia): Organización Mundial de Sanidad Animal. 2021. Disponible en: https://www.woah.org/app/uploads/2021/10/oie-asf-guidelines-complete-layout-spanish-final-links-2.pdf

Their collaboration will help preserve decades of progress in maintaining international sanitary status, minimizing economic losses and safeguarding food security in Spain.

The ASF outbreak represents a high-impact threat to animal health, food security, and the economic stability of the agricultural sector. Although ASF is not a zoonosis and does not affect humans, the virus's capacity for spread and its environmental resilience demand specialized containment, decontamination, and biological-control capabilities. In this context, the deployment of CBRN defense units is justified for the following reasons:

- A key aspect in the fight against the virus, highlighted even by the media, is the activation of the UME, particularly GIETMA, which, thanks to its experience gained during the COVID-19 crisis, can activate its command-and-control capabilities and its decontamination and disinfection capacities, supported by personnel, equipment, technical means, and operational procedures ready to serve society.
- Related to this, the UME includes personnel trained to operate in environments where biosecurity is critical, reducing the risk of becoming fomites or animated vectors of the virus. Thus, both the UME and the specialized CBRN defense units are, colloquially speaking, «key tools» for responding to the outbreak effectively and efficiently given their high degree of specialization.
- In this task, Veterinary Officers of the Military Health Corps can be integrated as advisory elements to operational command, as they are qualified and capable of intervening in such situations and advising on the establishment of appropriate control measures.
- Furthermore, DIM capabilities in both environmental and clinical samples from suspected animals, held by the Armed Forces and the Civil Guard, allow them to adapt detection techniques and enhance identification capabilities so that operational command obtains a real-time picture of events in the area.
- The reconnaissance capabilities of the Armed Forces specialized CBRN defense units ensure the availability of personnel integrated into homogeneous teams, optimizing the performance of these missions efficiently.
- Light and heavy decontamination capabilities, especially disinfection, are essential to deploy in the area to carry out the mission, and their training and

preparedness will undoubtedly contribute to preventing viral dissemination outside the designated zones.

- Both the Security Forces and military units possess capabilities to intervene with kinetic means against uncontrolled wild boars using selective-shooter teams, providing additional safety against contamination spread and significantly reducing the risk of accidents.
- The participation of other military capabilities related to STRATCOM and Cyber will help assess public opinion and tailor the most effective communication strategies.

In summary, the Armed Forces and the Security Forces and Corps constitute an irreplaceable asset in addressing this epidemic emergency caused by a Disease of High Economic Impact, which may otherwise result in multimillion-euro losses and jeopardize decades of successful efforts that led to the eradication of a disease that once devastated our economy. They are now a critical resource for Spain.

Conclusions

At the time of publishing this paper, there is no evidence of virus circulation within the domestic pig population; notably, early detection reinforces the evidence that surveillance systems, diagnostic pathways, and notification protocols are functioning effectively and in a coordinated manner.

The rapid identification of cases in wildlife is demonstrating the operational capacity of the epidemiological surveillance network, as well as the essential role of veterinary professionals, but also of the Security Forces and Corps, Rural Agents and local police, as well as the UME or even hunters, in attempting to control the outbreak in monitored and controlled areas.

The ASF outbreak constitutes a significant threat to animal health, food security, and the national agricultural economy. Although this virus does not affect humans, its high capacity for spread and environmental resistance requires expert measures in containment, decontamination, and biological control. For this reason, the deployment of military units specialized in CBRN Defense is fully justified within the national response strategy.

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