

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

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Swine Disease Global Surveillance Report

Monday, May 3, 2020 – Tuesday, June 2, 2020

Report Highlights

- **USDA updates African swine fever (ASF) Strategic Plan:** expanded it into a full response plan as part of its ongoing efforts to strengthen response capabilities in the event of an outbreak.
- **ASF in wild boar in Europe:** over 4,000 infected wild boar were found in the first 3 months of 2020
- **Pirbright Institute:** one step closer in the race to develop an ASF vaccine
- **Switzerland:** has reported the first recurrence of PRRS since March 2014

MAY OUTBREAKS BRIEF

R	Location	Date	Disease	Impact
	India - Northwestern India: Arunachal Pradesh, Assam	5/19	ASF	11 outbreaks reported - 10,920 susceptible; 4199 cases
	Vietnam - 155 communes in Hanoi and 19 provinces	5/28	ASF	4,000 pig culled
	South Africa - Outbreak falls outside South Africa's ASF control zone	5/10	ASF	40,000 susceptible pigs (epidemiological unit → village)
	North Korea - south Hwanghae and North Hamgyong Province	5/14	ASF	Not Available
	China - Lanzhou City, Gansu province	5/29	ASF	9,927/280 affected hog
	China - first reported outbreak in Chongqing province	6/1	FMD - serotype O	> 650 - cattle
	Switzerland - Neuchatel, Bern	5/8	PRRS - genotype 1 (EU)	First occurrence since 2014 - 2 cases/14 susceptible

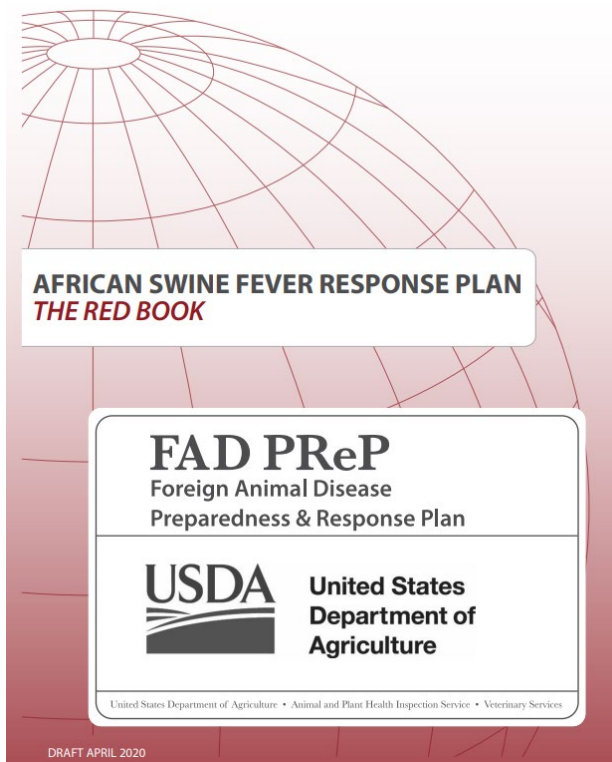
The outbreaks mentioned in this report are colored in the table above according to significance score, which are based on the identified hazards and potential risks to the US swine industry: Rank (R) 1: Blue – no change in status, 2: red - needs extra attention as the situation is dynamic; 3: black - requires consideration of change in practices to reduce exposure by the US industry.

African Swine Fever

USDA Updates ASF Strategic Plan

Due to the continued expansion of ASF throughout Asia and Europe, heightened preparedness planning efforts are underway. USDA is working closely with other federal and state agencies, the swine industry, producers, and international partners to prepare for and prevent an occurrence in North America. This plan provides updated progress in preparedness and response efforts.

The following list highlights important aspects included in this expanded ASF Response Plan.



- Comprehensively integrates feral swine response, expanding on feral swine management.
- Outlines USDA authorities and APHIS guidance specific to an ASF response.
- Includes an expansive chapter that discusses control and eradication strategies for both domestic and feral swine.
- Identifies specific response actions that will be taken if ASF is detected.
- Updates the USDA APHIS National Stop Movement guidance.
- Incorporates network-based controls.
- Describes the initial 72-hour timeline for updated policy.
- Includes changes to surveillance guidance.
- Incorporates an extensive epidemiology section to include updates to zone, area, and premises designations specifically for ASF.
- Includes an information management section.
- Adds a continuity of business section and references the Secure Pork Supply Plan.

Follow the [LINK](#) for access the full document

AFRICA South Africa

An outbreak of ASF was detected in the Eastern Cape Province of South Africa for the first time on May 8, according to the Minister of Agriculture, Land Reform, and Rural Development and Fisheries. The outbreak was detected after the department's veterinary services conducted livestock post-mortem investigations in Amathole District Municipality in April and notification was sent to the World Health Organization for Animal Health. Another outbreak was also reported on May 15 in the Free State after 38 pigs died on a farm.

Although the situation is not yet serious, Ntombela, the agricultural economist said that sporadic outbreaks in different provinces are likely to affect consumers' perception and the industry in the long term.

ASIA

India

India has now officially reported 11 outbreaks of ASF in the provinces of Assam, Arunachal Pradesh, and Nagaland, with more than 4199 cases, all in domestic pigs in the northeast of the country, dating back to the end of January (OIE, 2020).

Yet, the impact may be even greater, based on media sources that have published higher numbers of affected animals. For example, in early May, a spokesperson of the animal husbandry and veterinary department in Assam said that a total of 13,013 pigs died due to ASF.

Cases in wild boar

Although not officially reported to the OIE, there have also been reports in the media suggesting that wild boar deaths have been linked to these outbreaks. Assam Animal Husbandry and Veterinary Minister Atul Bora visited the Kaziranga National Park and reviewed the steps taken to protect the wild boars from ASF. A six-foot deep and two-km long canal was dug inside Agoratoli Park to deter the wild boars from going to nearby villages and the domestic pigs from entering the park.



Map 1. Location of reported ASF outbreaks in Northeastern India.

EUROPE

ASF in wild boar

There have been a total of 6,285 cases of ASF in European wild boar so far this year. This was an increase of 237 cases from the previous week — including 120 in Hungary and 92 in Poland.

Over the past weeks, OIE also received confirmation of further outbreaks in wild animals from Hungary (155 animals), Romania (16), Latvia (3), and Moldova (1).

With a total of 540, Poland has reported the newest cases of ASF in wild boar over the past week. All of the animals were found dead or culled up to the end of January of this year. The majority of cases — 316 — were from the eastern provinces of Lublin, Masovia, Podkarpackie, Podlaskie, and Warmia-Masuria. The other 224 wild boars were in Lubusz and Wielkopolskie (Greater Poland), which are in the west of the country.

Outbreaks	First quarter, 2020	Compared to whole of 2019
Poland	1824	74%
Hungary	1371	85%
Romania	386	56%
Total EU	4085	63%

Table 3. Number of ASF outbreaks in wild boar in the European Union in the first quarter of 2020

At 2,544 and 2,487, respectively, Hungary and Poland have reported (by May) the highest number of infected animals since the start of 2020.

Other countries that have reported significant numbers of ASF-infected wild boar to the EC so far this year are Romania (480 cases), Bulgaria (320), Latvia (114), Slovakia (112) and Lithuania (96). Italy, Serbia, Estonia, Moldova, Ukraine and Belgium have also confirmed ASF in wild boar this year, but in fewer than around 40 animals.

UK

Pirbright Institute vaccine - protected 100% of pigs from fatal disease

Scientists from The Pirbright Institute have recently published ([LINK](#)) exciting results in the race to develop a vaccine for ASF. In their recent trial, 100 percent of pigs immunized with the new vaccine survived an otherwise lethal dose of ASF virus.

The team has developed a vectored vaccine, which uses a non-harmful virus (the vector) to deliver eight strategically selected genes from the ASF virus genome into pig cells. Once inside the cell, the genes produce viral proteins that prime the pig immune cells to respond to an ASF infection. All pigs that were immunized with the vaccine were protected from a severe disease challenge with an otherwise fatal strain of ASFV, although some clinical signs of disease did develop, Chris Netherton, head of Pirbright's ASF Vaccinology Group, said.

This type of vaccine will also enable the differentiation of infected animals from those that have received a vaccine and the next step would be to uncover the mechanisms behind how the proteins produced by the virus genes stimulate the immune system so that the vaccine can be further refined to improve its effectiveness, according to Dr. Netherton, Head of Pirbright's ASF Vaccinology Group.

Potential global collaboration

In the Philippines, they are looking forward to collaborating and taking part in the field trials of the potential vaccine developed once available.

PRRS - genotype 1 (EU)

EUROPE

Switzerland

On May 8, Switzerland reported the recurrence of PRRS

On May 2, a pig from an animal shelter in the Canton of Neuchâtel (Map 2) presented suggestive symptoms, such as lameness, swollen carpal joints, increased body temperature, inappetence, and vomiting. The pig later developed fever, respiratory symptoms, and petechiae on ears and trunk.

On May 4, blood samples were sent to the national reference laboratory "Institute of Virology and Immunology (IVI)," and tests yielded negative results for ASF and CSF. However, the samples tested positive for antibodies against porcine reproductive and respiratory syndrome virus (PRRSV) as well as for viral RNA of the genotype 1 (EU genotype).

The animal shelter where the positive pig came from is keeping another pig, about six months old, that tested positive for antibodies against PRRSV today. These two pigs arrived together at the shelter. The movement history of these two pigs needs to be clarified. Two Vietnamese pot-bellied pigs, already kept in the shelter before the arrival of the piglets, tested negative for antibodies and viral RNA. The movement of these animals has been prohibited. Within the coming days, holdings keeping pigs in a range of 5 km around the animal shelter will be tested as well.



Map 2. Location of the two reported outbreaks

Being isolated by import/export boundaries means that Switzerland has a strategic advantage on the sanitary level. Surrounded by countries with large swine production systems like Germany, France, and Italy, the nation also managed to be free of PRRS, which is quite an accomplishment. Mycoplasma, atrophic rhinitis (AR), and Actinobacillus pleuropneumoniae (App) are rarely found. Even though the shortest route from Germany to Italy is through Switzerland, all pigs have to pass via Austria, as the Swiss borders are closed for living pigs and fresh semen. Vaccination against PRRS, Mycoplasma, and App are not allowed.

COVID-19

SARS-COV-2 potential collateral damage

Russia

Backyard pig farming, which had been steadily declining in popularity, is being promoted in Russia to those now unemployed from the coronavirus pandemic. Unemployment numbers could reach 9 million. All citizens in the Kurgan region (north of Kazakhstan) are eligible to receive two piglets per person, without charge - including those without backyard farming experience. The chairman of the Russian Union of Pork Producers, Sergey Kovalev, fears this move could be a "catastrophe" for the Russian pig industry for two reasons. If ASF were to occur in these animals, purchasing these pigs back would strain regional budgets and secondly, the growth of backyard pig populations could jeopardize the growth of pork exports the country is working so hard to achieve.

References:

FAO - [ASF situation in Asia update](#) -- OIE - [WAHIS interface - Immediate notifications](#)

USDA ASF Strategic Plan

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