

Swine Disease Global Surveillance Report

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

PROJECT

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

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

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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Swine Disease Global Surveillance Report

Monday, August 1st, 2018 – Monday, September 3rd, 2018

Report highlight: August was a challenging month to the swine industry, as we saw a growing number of new outbreaks of African swine fever, including its expansion to Asia with China reporting its first case. Also, the continued westward spread was observed with Bulgaria reporting its first case, while Romania is struggling to control the epidemic. Only China and Romania together have officially reported culling 180,000 pigs during this month. Of particular significance, South Korea first identified the virus being transported out of China in pork products. Though the virus was probably dead due to cooking, it **increases attention on the likelihood of such transport on airlines** is only expanding as the outbreak widens. The current situation creates an **alert to the international trade of pork**, and many countries are revising their commercial agreements with affected countries.

***Disclaimer:** It is expected that this trend of ASF outbreaks will continue, thus we will no longer release announcements of individual outbreaks. Updates will be released if something pertinent to the US pork producers occurs. Compiled summaries will be released every other week.*

Immediate pork producer actions can include:

- Review your biosecurity protocols with your veterinarian and commit to their implementation every day.
- Prepare your farm for enrollment in the Secure Pork Supply. Resources instructions can be found at www.SecurePork.org
- Fill out a FAD Preparation Checklist for your arm. It can be found at www.pork.org/fad
- Visit with your feed supplier about the ingredients used in you diets. A list of suggested topics for discussion with feed or feed ingredient suppliers will be forthcoming.

With the best information currently available, and until we learn more, extreme caution should be taken when considering hosting someone on US farms from an ASF, or another FAD, positive region of the world. If it is needed, the USDA Foreign Animal Disease Diagnostic Laboratory on Plum Island requires a 5-day downtime for anyone planning to have contact with susceptible species after working with diseases and animals on.

ASF Reports – Summary

African Swine fever is currently the biggest game changer for the Swine Industry. Only in 2018, 3,085 new outbreaks were officially reported to OIE in Europe and Asia, with China reporting its first case in August. In Africa, the disease has been present since the 1920’s, and in 2007 it made its way out of the African continent into Georgia, apparently by contaminated wastes. Ever since, it spread firstly into the countries around but had a remarkable trend into Russia and Ukraine for quite a while.

There are three clear timepoint jumps in the spread of the disease that are noteworthy, as we describe below in **Figure 1** and **Map 1**. The First one shows its incursion mainly into Georgia and Russia. 2014 is the second remarkable timepoint when an explosion in the number of new outbreaks into European Union occurs. Five new countries report the disease, and ever since a clear westward movement is observed in Europe. Countries struggle to control the epidemics and neighbors rush to protect their borders.

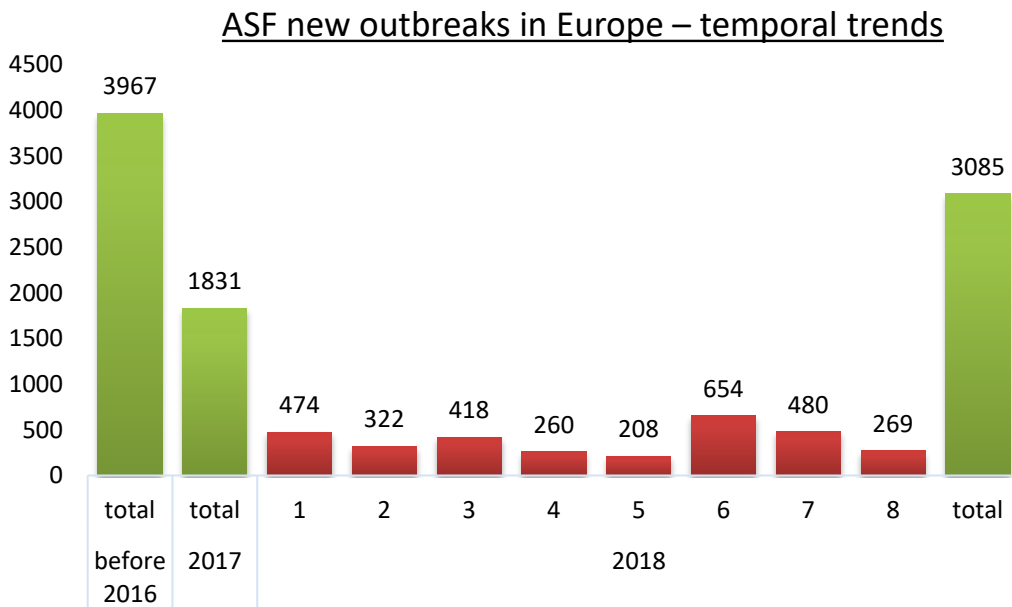


Figure 1. In green, cumulative count of new outbreaks in European countries are shown. Each column represents a different period: between 2007-2016, 2017, and 2018(first 8 months). In red, monthly counts for the first eight months of 2018.

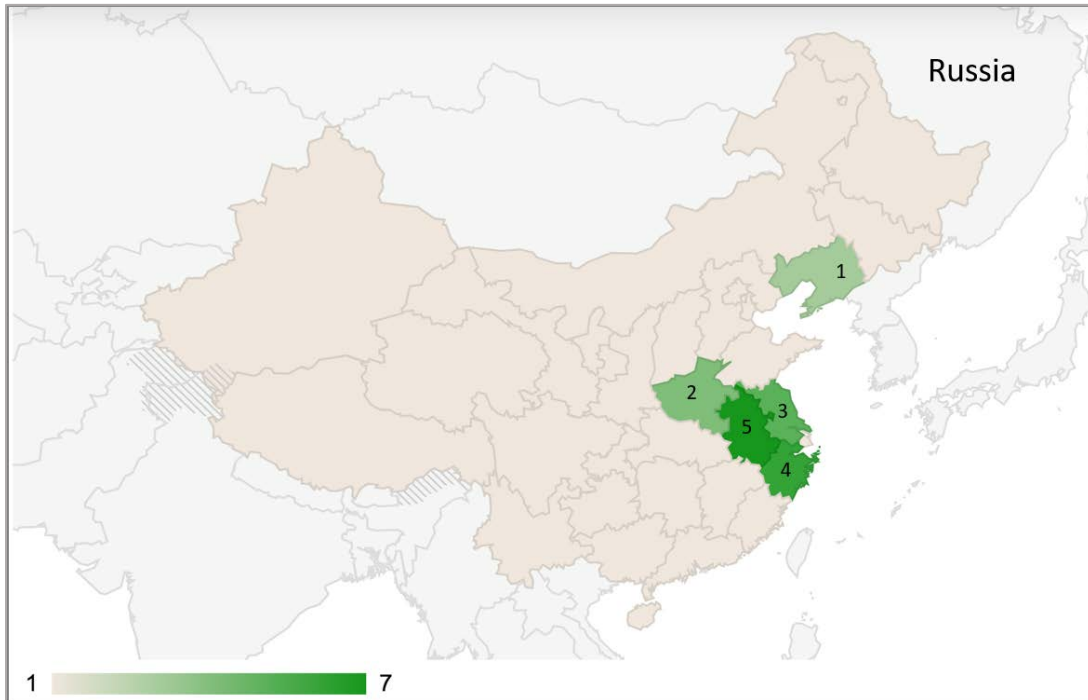
The third timepoint is happening in 2018, and in only 8 months it is already possible to see the proportion of the damage it is causing to the swine industry worldwide. So far, there is an increase in number of cases of the order of 168%, when compared to only 2017. And similar numbers of new cases are observed in the first 10 years ASF in Europe. From 2007 to 2016, 3,967 new outbreaks were officially reported (**Figure 1**).



Map 1. Regional temporo-spatial spread of ASF in Europe. In black: Georgia (1st outbreak, 2007); 1st expansion wave - second semester 2007 (lighter red): Russia, Armenia, Azerbaijan, Belarus; (2nd expansion wave - first semester 2014 (middle red): Poland, Ukraine, Latvia, Estonia, Lithuania; 3th expansion wave - 2017-2018 (dark red): Check Republic, Moldova, Romania, Hungary.

In 2017, the disease was firstly reported in the Far East area of Russia demonstrating its transcontinental and transboundary spread potential. Two cases were reported in Irkutsk and Khabarovsk, and both were related directly or indirectly to contaminated feed and pork that were brought into the region. While still in Russia, it marks its entry into the Asian Continent. Fairly close to the Chinese border, with the aggravating factor that the second most important area of swine production in China is located in the Northeast (NE) of the country, which is where it has a border with Russia. **Map 2** shows the location of the five provinces in China that were reportedly affected by ASF during August, and the Russian border. **To date, China reports seven cases and announces a ban to transport of pigs and pork from the affected regions to avoid using contaminated products, which affects directly the local industry.**

Trade with ASF positive countries such as Russia was banned in China yet cities like Khabarovsk, which is 18 miles from the Chinese border, are frequented by Chinese delegations purchasing a variety of products including meat. Moreover, due to rising tariffs with the United States, China's import of products from other countries such as Russia has increased. Last year, China imported 240,000 tons of pork and bought over \$1 billion dollars of food products from Russia, becoming the top importer of Russian food. In late August, FAO reported that the virus found in China is similar to the one discovered in Russia, Georgia and Estonia in the past decade.

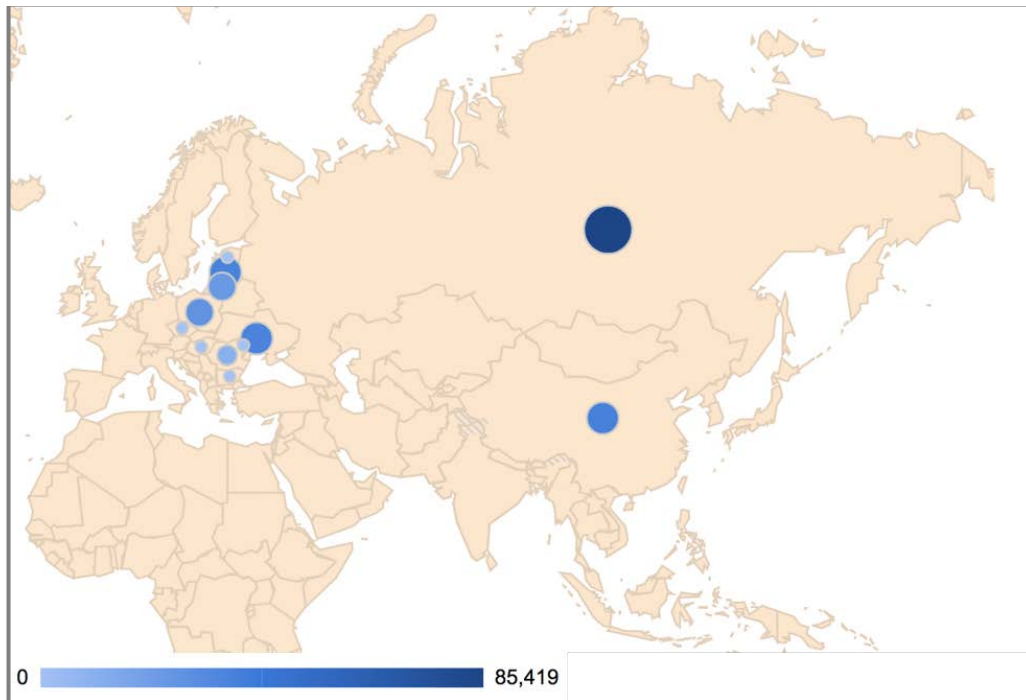


Map 2: Chinese provinces currently affected by African swine fever outbreaks with significant swine production. 1:Liaoning, 2:Henan, 3:Jiangsu, 4:Wenzhou, 5: Anhui (GAIN report).

The cumulative numbers of 2018 already demonstrate the magnitude of the crisis. At the present moment, there are 12 countries in Europe and Asia facing ASF outbreaks. OIE officially reported 23,000 dead and 68,000 culled animals, however this is a growing number with new reports happening. Refer to **Map 3**. As a comparison, in 2017 150,000 animals were culled, and the 10-year (2006-2017) cumulative is of the order of 1 million destroyed animals. This numbers do not contain the mortality rates caused by the disease, and all the non-official destruction of animals decided individually by companies to contain the disease.

The US Agriculture Secretary alerts for the probability of cases being underreported, and to the increased attention to the US borders. APHIS increased preparedness and checks are being made at borders and airports to **avoid the entry of swine by-products from contaminated areas**. To reinforce the importance of such measure, South Korea reported finding contaminated pork being brought into the country, when two passengers voluntarily gave in the products they were carrying from China to the authorities.

Besides the devastating effects to the global trade economy not only on the U.S. pig and agricultural economy it demonstrates the **real risk of foreign animal disease incursion through imports to the United States**. The US imports a variety of products from China, including supplies for the swine industry. The virus is very hardy and research has already demonstrated it can **survive for extreme conditions in the environment, and for prolonged periods of time in fresh and frozen meat**. Several countries are already imposing import restrictions due to ASF, and pressure from already rising tariff would be multiplied by export/import restriction and bans to China if ASF occurred in the U.S.

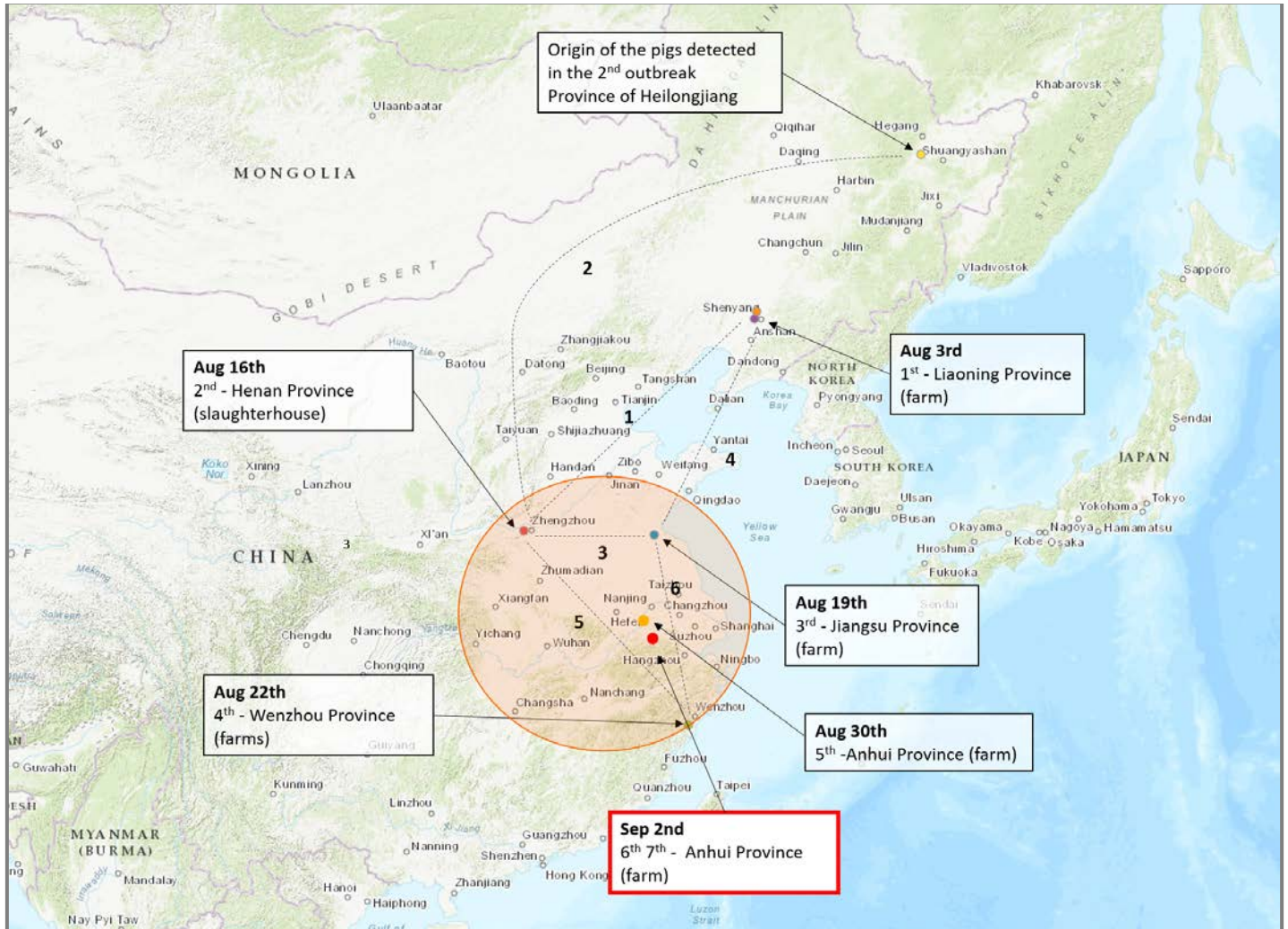


Map 3. Circles represent the cumulative count of officially destroyed animals in each country during 2018. Russia (85419); Poland (27192); Ukraine (35736); Latvia (36533); Lithuania (23754); Romania (10023); China (37600).

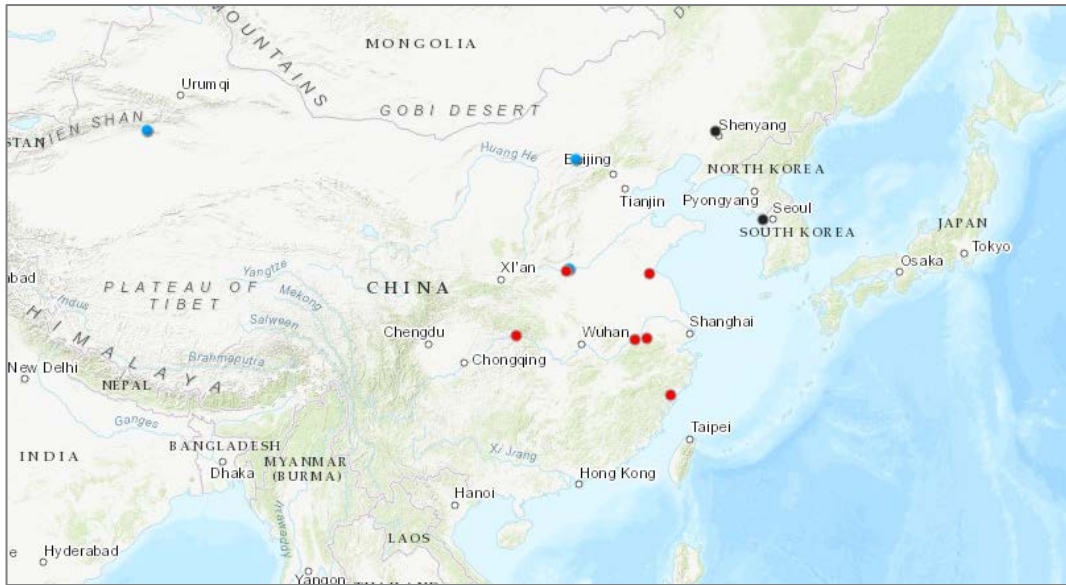
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CURRENT REPORT – September 2018 -



Map 4: China. Distances by road from different points: **1**: = 870 miles (1,400 km); **2**= 1,400 miles (2,253 km); **3**: 350 miles (563 km); **4**: 800 miles (1,288 km); **5**: 500 miles (800km); **6**: 317 miles (510 km). **Red circle** shows the location of cases 2, 3, 4, 5 and 6 in a radius of **347 miles (550 km)**.



September Report Maps: The locations mentioned in this report are colored in the maps below according to ***significance score***, which are based on the identified hazards (list of worldwide events below) and potential risks to the US swine industry: ***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.

Full list of report's events

Event # 1	First case of ASF in China and Asian continent. 19,420 pigs were at risk, and 100 percent was culled. Source of outbreak still unknown. The local government launched the African Swine Fever Contingency Plan and Emergency Response Level II, according to the Standards & Protocols for African swine fever. A series of control measures have been taken.	
Date of the event:	8/1/18	
Date of publication:	8/3/18	
Location:	Shenbei Street, Shenbei New District, Shenyang, province of Liaoning China	
Disease type:	ASF	
	Farm animals	
Species affected:	Porcine	
	Measures applied: Movement control inside the country, Surveillance outside containment and/or protection zone; Official destruction of animal products	
	Official disposal of carcasses, by-products and waste; Stamping out; Zoning.	
	1. Regarding the source of outbreak and traceability, the origin of infected pigs has been traced in the outbreak site (Wuwu community). The pigs came from two privately owned farms, belonging to the same owner. The farms have been destocked and pig house emptied. The environmental samples were tested positive for African swine fever (ASF) nucleic acid. A total of 676 live pigs were stamped out in the periphery of the two pig farms. 2. Local veterinary authorities and institutions have conducted emergency screening investigation in the whole province, up to August 14. A total of 35.54 million live pigs had been screened; 10,226 samples were collected and 7 samples were tested positive for ASF nucleic acid. The epidemiological survey showed that the positive samples came from the two villages in the threatened area, and all of the live pigs in the two villages were stamped out.	
	Morbidity: -	Mortality: -
Significance score:	3.00 *	
	Reporting source: OIE	
Event # 2	Source of the outbreak(s) or origin of infection is unknown. In February, it was reported FMD-O in backyard sheep in the same province (1,200 susceptible and 100% culled).	
Date of the event:	8/8/18	
Date of publication:	8/14/18	
Location:	Huiji District, Zhengzhou, province of Henan. China	
Disease type:	FMD	
Species affected:	Please, comment: Porcine	
	Morbidity: 2.89	Mortality: -
Significance score:	1.00 *	
	Reporting source: OIE	
Event # 3	First occurrence of a listed disease in a defined zone within the country. Small farm, 30 animals died, then 100% was destroyed. Epidemiological survey and screening have been initiated in the Heilongjiang province. Strict blockade, disinfection, and	
Date of the event:	-	
Date of publication:	8/16/18	
Location:		

Henan (Economic Development Zone, Zhengzhou) China	movement control measures were conducted in the slaughterhouse. The local government launched the African swine fever contingency plan and emergency response according to the Standard & Protocol for African swine fever. All live pigs and animal products were prohibited to enter and exit the area.	
Disease type: ASF		
Species affected: Farm animals		
Porcine		
	Morbidity: 11.54	Mortality: 11.54
Significance score: 2.00 *	Reporting source: OIE	
Event # 4	Event started in May, reported on August 19th, follow-up number 1 on 22nd.	
Date of the event: 5/5/18		
Date of publication: 8/19/18		
Location: Several locations, whole country. Guinea	42,096 susceptible animals, and 42 outbreaks reported.	
Disease type: FMD	Epidemiology: Source of the outbreak(s) or origin of infection; Introduction of new live animals	
Species affected: Not informed or specified	Illegal movement of animals; Animals in transit; Contact with infected animal(s) at grazing/watering.	
Others	Measures applied: Movement control inside the country; Surveillance outside containment and/or protection zone; Surveillance within containment and/or protection zone; Traceability; Quarantine; Disinfection; Slaughter; Vaccination permitted (if a vaccine exists); Treatment of affected animals ().	
	Morbidity: 88	Mortality: 43
Significance score: 1.00 *	Reporting source: OIE	
Event # 5	Third outbreak reported in China. 14,686 susceptible pigs. 100% culled. After the first ASF outbreak, a supervision work group was promptly dispatched to the Jiangsu Province by the Ministry of Agriculture and Rural Affairs. Strict blockade, disinfection, killing and disposal of the animals and relevant contaminated materials, and movement control measures were conducted in the farm.	
Date of the event: 8/15/18		
Date of publication: 8/19/18		
Location: Baofu Village, Haizhou District, Lianyungang, province of Jiangsu China		
Disease type: ASF		
Species affected: Farm animals		
Porcine		
	Morbidity: 4	Mortality: 14
Significance score: 2.00 *	Reporting source: OIE	
Event # 6	This is the forth outbreak reported in the country.	
Date of the event: 8/17/18		
Date of publication: 8/23/18		
Location: Zhang ao Village, Yueqing, Wenzhou, Province of Zhejiang China	Ministry of Agriculture and Rural Affairs. Strict blockade, disinfection, killed and disposed of the animal and relevant contaminated materials, movement control measures were conducted in the farm. The local government launched the African swine fever contingency plan and emergency response according to the Standard & Protocol for African swine fever. All	
Disease type: ASF		
Species affected: Farm animals		

Porcine	live pigs and animal products were prohibited to enter and exit the area.
	Morbidity: 23 Mortality: 18
Significance score: 2.00 *	Reporting source: OIE
Event # 7	Epidemiology of the event: Source of the outbreak(s) or origin of infection was the introduction of new live animals. No further information was provided.
Date of the event: 8/15/18	
Date of publication: 8/23/18	
Location: Weili county, Weili, Mongolia autonomous prefecture of Bayinguoleng, Xinjiang China	
Disease type: FMD	
Species affected: Farm animals Cattle	
	Morbidity: 36 Mortality: 6.35
Significance score: 1.00 *	Reporting source: OIE
Event # 8	Pork bought in China was voluntarily reported to quarantine officials at the airport. After lab work, it was positive for ASF. The material was heated and disposed.
Date of the event: 8/26/18	
Date of publication: 8/26/18	
Location: Incheon International Airport South Korea	
Disease type: ASF	
Species affected: Please, comment: Others	
	Morbidity: - Mortality: -
Significance score: 3.00 *	Reporting source: OIE
Event # 9	Fifth outbreak reported in China during the month of August. After the first African swine fever outbreak, supervision workgroup was promptly dispatched to the Anhui Province by the Ministry of Agriculture and Rural Affairs. Blockade, disinfection, stamping out of the animals, destruction of relevant contaminated materials and restriction of movement measures were conducted in the farm. The local government launched the African swine fever contingency plan and emergency response according to the Standard & Protocol for African swine fever. All live pigs and animal products were prohibited to enter and exit the area.
Date of the event: 8/17/18	
Date of publication: 8/30/18	
Location: Yanhe Village, Nanling, Wuhu, province of Anhui China	
Disease type: ASF	
Species affected: Farm animals Porcine	
	Morbidity: 40 Mortality: 17.43
Significance score: 2.00 *	Reporting source: OIE
Event # 10	Source of the outbreak was Contact with wild species. Coordinates modified to protect confidentiality as required by South African Legislation; Within South Africa's FMD Protection Zone (not part of South Africa's FMD Free Zone).
Date of the event: 5/25/18	
Date of publication: 8/30/18	
Location: Coordinates modified to protect confidentiality as required by South African Legislation.	

South Africa			
Disease type:	FMD		
Species affected:	Cattle		
		Morbidity: -	Mortality: -
Significance score:	1.00 *	Reporting source: OIE	
Event #	11	Epidemiology: Source of the outbreak(s) or origin of infection is Unknown or inconclusive.	
Date of the event:	7/27/18		
Date of publication:	8/30/18		
Location:	Dianzi Town, Xinghe, Ulanqab, Inner Mongolia China		
Disease type:	FMD		
Species affected:	Farm animals Cattle		
		Morbidity: 32	Mortality: 10
Significance score:	1.00 *	Reporting source: OIE	
Event #	12	Bulgaria reported its first outbreak of African swine fever on Friday, with authorities saying 3 of 7 backyard fattening pigs died, at a farm close to the Romanian border. Bulgarian Food Safety Agency said that all 23 pigs in the village will be culled and a 3-kilometre quarantine zone will be established around the village. Bulgaria built a fence on its land border with Romania last month in an attempt to prevent the crossing of wild boars that could spread the disease onto its territory.	
Date of the event:	8/31/18		
Date of publication:	8/31/18		
Location:	village of Tutrakantsi, Varna region Bulgaria		
Disease type:	ASF		
Species affected:	Backyard Porcine		
		Morbidity: 30	Mortality: 50
Significance score:	1.00 *	Reporting source: OIE	
Event #	13	The county government immediately imposed a comprehensive blockade on the epidemic site (Zhoumei pig farm in Sanzhou Village, Huangqikou Town). In this case, African Swine Fever was culled out and Classical swine fever was confirmed. So far, no official report from OIE was released.	
Date of the event:	8/29/18		
Date of publication:	9/1/18		
Location:	Sanzhou Village, Huangqikou Town, Hubei Province, China		
Disease type:	CSF		
Species affected:	Farm animals Porcine		
		Morbidity: -	Mortality: -
Significance score:	2.00 *	Reporting source: OIE	
Event #	14	China's Ministry of Agriculture said Sept. 2 that 134 hogs had died for ASF in Xuancheng city of eastern Anhui province, bringing the total number of outbreaks in China over the past month to six, according to Reuters report. Xuancheng city is around 45 miles southeast of Wuhu city, where the 5th ASF case was reported Aug. 30. On Aug. 31, the ministry announced it had	
Date of the event:	9/2/18		
Date of publication:	9/2/18		
Location:	Xuancheng city, Anhui province		

China		banned the transportation of live hogs and pork products into and out of the infected provinces.	
Disease type:	ASF		
Species affected:	Farm animals Porcine		
		Morbidity: -	Mortality: -
Significance score:	2.00 *	Reporting source: Reuters	
Event #	15	China reported a new case of African swine fever in Xuancheng in Anhui province on Monday, the second in the city in as many days, raising the risk for farmers as the disease spreads rapidly in the world's top pork producer.	
Date of the event:	9/2/18		
Date of publication:	9/3/18		
Location: Xuanceng city, Anhiu province China		The new outbreak, the seventh in China since early August and the third in the eastern province of Anhui, occurred on a small farm of 308 pigs, killing 83 of them, said the nation's agriculture ministry.	
Disease type:	ASF		
Species affected:	Farm animals Porcine		
		Morbidity: -	Mortality: 27%
Significance score:	2.00 *	Reporting source: Reuters	
<p><i>*Significance score: A scoring system to assess the likelihood a disease event will impact the global swine industry. Scores range from 1-3 (low-high) based on the novelty of the disease, effect on the swine industry, and impact on trade.</i></p>			