

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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Swine Disease Global Surveillance Report

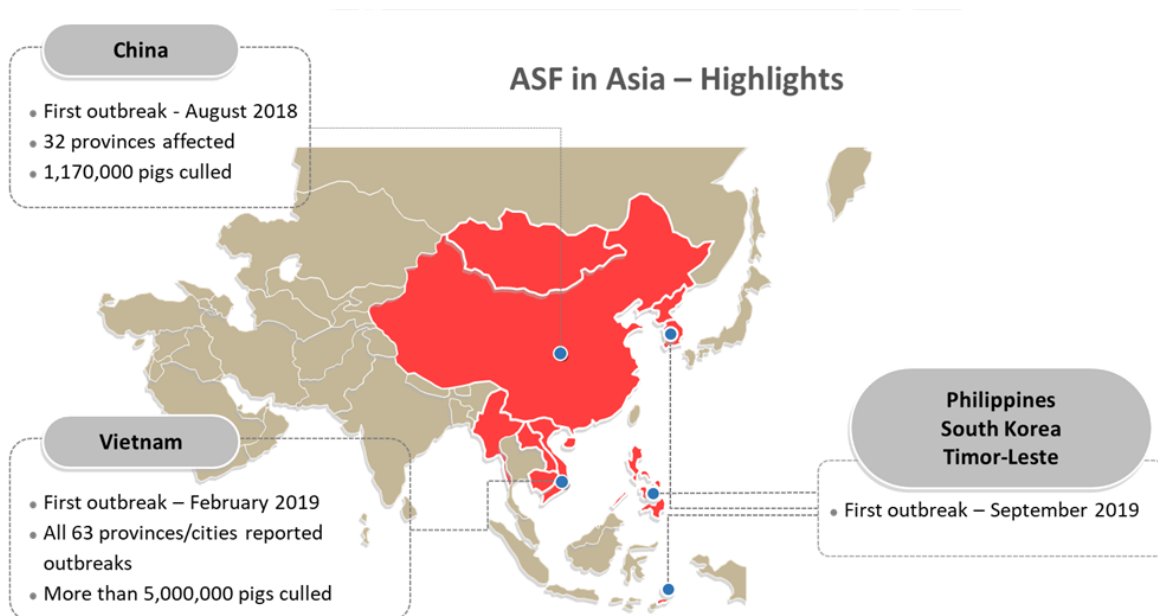
Monday, September 2, 2019 – Monday, September 30, 2019

Report Highlights

- **First ASF outbreak reported in the Philippines:** On September 8, authorities confirmed the incursion of African swine fever virus (ASFv) into the country.
- **First ASF outbreak reported in South Korea:** South Korea confirmed the first ASF outbreak. More than 67,000 pigs had been culled as of September 29.
- **10th Asian country reporting ASF:** On September 27, Timor-Leste is the latest country to report African swine fever. The island of Timor-Leste is located 450 miles north of Darwin, Australia
- **ASF cases suspected in Thailand:** Thailand continues to be on high alert for ASF. To date, ASF has not been reported in Thailand. Thousands of pigs have been culled as precautionary measures and 24 provinces have been declared to be “surveillance areas” with movement restrictions.
- **Classic Swine Fever (CSF) in Japan:** Japan will start vaccinating commercial pigs against the CSF virus in an attempt to help control its continued spread.

African Swine Fever

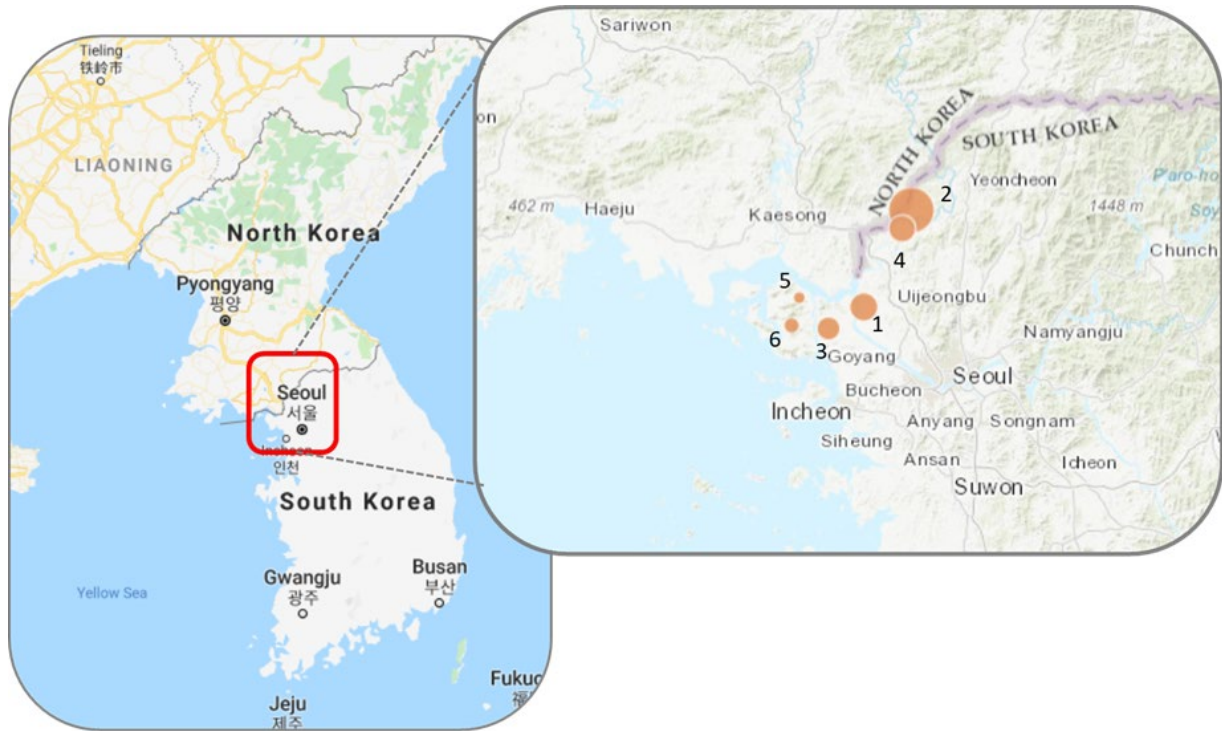
ASIA



ASF has spread across the region affecting 10 countries in the last 13 months

South Korea

On September 17, South Korea confirmed its first outbreak of ASF at a pig farm in Paju (located near the border with North Korea). The next day, the Ministry of Agriculture, Food and Rural Affairs confirmed the second ASF case at Yeoncheon (Map 2).



Map 2. ASF outbreaks reported to OIE by September 27 in South Korea.

On September 23, the third case of ASF was confirmed at a pig farm with about 1,800 pigs in the city of Gimpo, south of the first confirmed city. And by Friday, September 27, the country confirmed its ninth outbreak, although only six have been reported to OIE so far (Table 1).

The first case came less than four months after North Korea had reported its first outbreak in late May. South Korea's Ministry of Agriculture, Food and Rural Affairs said hundreds of officials have been deployed to inspect disinfection efforts at pig farms, slaughterhouses, and feed mills nationwide, which came under a government-imposed a nationwide movement restriction of 48-hours ("standstill") after the confirmation of the first outbreak. On Saturday, September 28, a 48-hour lockdown at pig farms, feed factories and related facilities across the country was lifted. Further, authorities began slaughtering all pigs at farms located in the county of Ganghwa and Incheon. Currently, Ganghwa is considered the most vulnerable region, with five out of the nine confirmed cases in the country so far.

Outbreak	Cases	Culled total	Location (city)*
1	5	2450	Paju
2	1	4732	Yeoncheon
3	4	1800	Gimpo
4	3	2300	Paju
5	1	388	Ganghwa
6	5	830	Ganghwa
7	2	2	Ganghwa
8	2	980	Ganghwa
9	3	2000	Ganghwa
Total	26	15482	

**All cities situated in the North of Gyeonggi Province and Incheon adjacent to the border with North Korea*

Since the first outbreak was discovered (September 17), the ministry said it had culled around 67,000 pigs as of the afternoon of Sunday, September 29. The total number of pigs slaughtered or to be culled will exceed 94,000, it added. That would be 0.76% of the country's pig industry, which includes 6,000 farms raising a population of roughly 12.3 million pigs.

The confirmed cases sparked concerns over the local pork industry, including its exports. The country shipped US\$217,899 worth of pork to three destinations in 2018, namely Hong Kong, the United Arab Emirates, and Thailand, according to the Ministry of Agriculture, Food and Rural Affairs.

On September 22, Ministry officials said that exports are unlikely to be affected as long as the disease stays in the northern region of the country, explaining that exports to Hong Kong will remain steady as the farms shipping pork to the city are located in South Gyeongsang Province, roughly 300 kilometers from the infected farms. Authorities also highlighted that the United Arab Emirates also allows imports of South Korean pork products as long as they have quarantine certificates issued by Seoul.

On September 28, authorities concluded that another three suspected cases were negative: two at farms and one at a slaughterhouse in Hongseong, 150 kilometers south of Seoul.

- Expert insights

Dr. Kyoung-Jin Yoon, a professor at Iowa State University's Veterinary School and staff at its Veterinary Diagnostic Lab, maintains close connections with swine industry experts in his native country and has been monitoring the ASF situation in South Korea closely.

The initial epidemiological investigation launched after the first two ASF diagnoses in South Korea tentatively ruled out the involvement of wild boars. Both index farms had a good fence system for feral

hogs and were built on elevated ground. Additionally, wild boars have not been observed in the area. All wild boars tested in South Korea were negative when surveillance was conducted earlier this summer.

Dr. Yoon said South Korea has implemented the standstill after the first and third cases, and out-of-province movement of livestock from the impacted province, Gyeonggi and its neighboring province, Kangwon is still restricted. Including Paju, Yeoncheon, Gimpo, and Kanghwa, the federal authority has also designated a total of six counties near the border as tightly controlled zones, subject to a series of quarantine measures to prevent the spread of the disease. The South Korean government has mobilized many disinfection vehicles to affected areas, with inspection posts set on all major roads for vehicle disinfection. All affected farms have been depopulated according to the OIE standard.

According to Dr. Yoon, the initial epidemiological investigation didn't reveal any obvious link between the third ASF case farm or the two earlier positive farms. He also says overall reporting of sick pigs to South Korean authorities has been better than expected so far. There was no evidence pigs were moved out of the index farms; however, trucks and people have been in and out. Dr. Yoon says these activities emphasize the importance of continuing education for producers and veterinarians on what to do in cases of foreign animal disease incidence.

Laboratory confirmation of ASF positives has been superb in South Korea, in Dr. Yoon's view, with same-day turnaround once reported. South Korea's federal lab, the equivalent to National Veterinary Services Laboratories (NVSL) here in the US, is the only lab authorized to make the final report. This lab has been suffering from staff shortage and fatigue as it has handled testing all samples from both suspect cases and surveillance samples. Regional labs in South Korea are allowed to use a rapid test kit, but test results have to be confirmed at the reference lab before making any official reports. Private and university-affiliated diagnostic labs in South Korea are not allowed to do testing yet, due to the lack of appropriate biosafety containment level.

- Wild boar containment at the border with North Korea

A local newspaper, Chosun, published an article early last week saying, "...many wild boar have crossed rivers and the military demarcation line, then died." In this regard, on September 27, authorities ordered hundreds of soldiers manning the 250km Demilitarized Zone (DMZ) on its border with North Korea to track and capture wild boars in a bid to prevent the spread of the disease. As they can't shoot them, because it would be a violation of the armistice agreement, animals might be deterred by fences and other barriers along the DMZ. So far, two boars found dead in the DMZ have tested negative, the South Korean Ministry of National Defense confirmed.

- Environmental samples tested for ASF

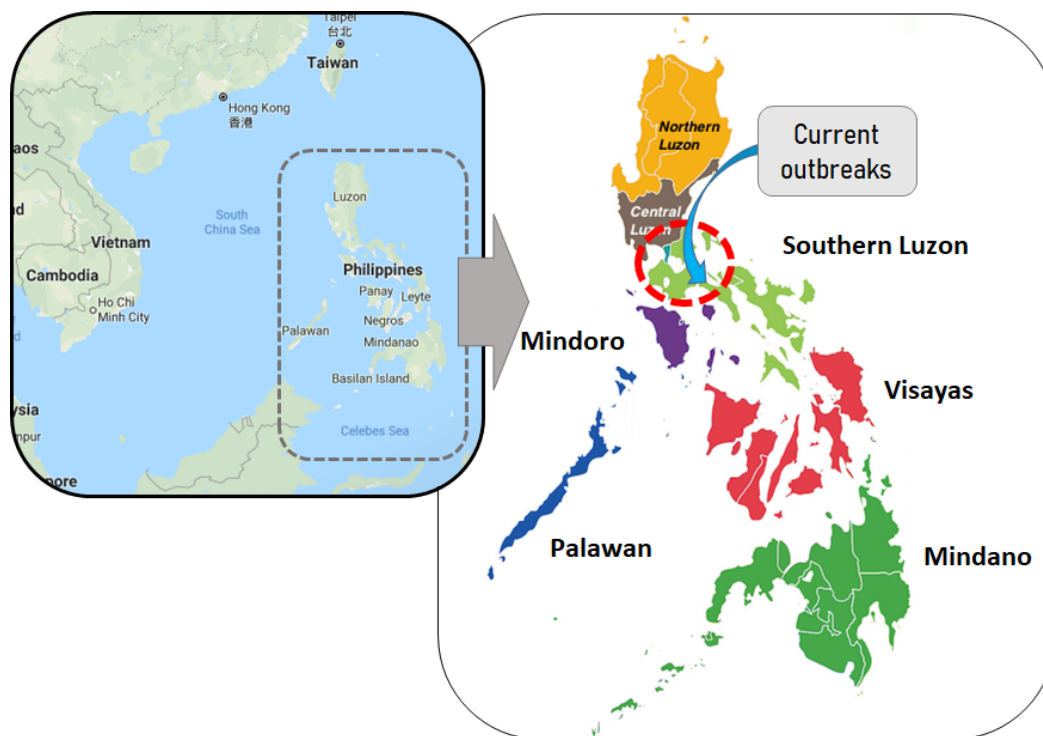
The South Korean Prime Minister, while presiding over a pan-government meeting early last week, stated, "...measures fully in accordance with our manuals and sometimes beyond that, have been taken. But, those measures are under the premise that the virus could be transmitted via people, vehicles or big animals," raising concerns regarding other potential routes of dissemination, for example, through underground water or small insects. New quarantine measures that have never been taken before should be considered, he said. Later in the week, Seoul's environment ministry said it has not found any traces of the virus in water samples gathered from rivers near the Inter-Korean border.

Philippines

On September 8, after two weeks of implementing precautionary measures in response to an increased mortality rate of backyard raised pigs, The Philippines reported its first case of ASF. The report submitted to OIE describes an outbreak cluster of seven backyard farms, 536 cases over a population of 7,952 (7,416 pigs were culled), affecting several villages of Rizal province (Map 3).

In the following weeks, new cases of ASF were detected in Metro Manila and Bucalan province (Southern Luzon region). Local sources also mentioned cases affecting Central Luzon, but Agriculture Secretary William Dar declined to identify those areas. Investigations are still ongoing, but authorities suspect that the initial source of infection has been swill feeding, then spread through illegal movement of already sick pigs that were being sold at a lower price. The agriculture department added that the virus could also be traced to smuggled frozen meat and returning overseas Filipino workers who brought back infected meat products.

Several reports stated that carcasses of presumably affected pigs were disposed of in a river in Marikina City and in a creek in Quezon City. Authorities have increased the surveillance efforts in these locations, describing those actions as utterly irresponsible on the part of the backyard raisers.



Map 3. Location of reported ASF outbreaks in the Philippines

The Department of Agriculture (DA) will be spending US \$1.5 million in emergency funds to create a task force to manage, control, and contain the disease, to stop the disease from spreading to Visayas and Mindanao regions that remain free of infection. It is expected to present a geographic zoning plan to adjust government response to the developing situation on the ground and effectively prevent the further spread of ASF to other parts of the country. The task force is chaired by President Rodrigo Duterte, with Agriculture Secretary William Dar as vice chairman, and the DA as the lead agency.

The Philippines, the world’s 10th-largest pork consumer and seventh-biggest pork importer, with its swine industry estimated at US \$5 billion. Backyard production accounts for 65% of the nation’s hog output.

Timor-Leste

On September 27, Timor-Leste, an island country just north of Australia, reported to the OIE 100 outbreaks of ASF in smallholder pig farms in the Dili Municipality, affecting a total of 405 pigs out of an estimated national population of 44,000 pigs.

According to local newspapers, samples were taken and sent for laboratory analysis in Australia confirming the diagnosis. The Ministry of Agriculture and Fisheries is working in collaboration with the Government of Australia, implementing all necessary measures to limit the effects of this outbreak.

North Korea

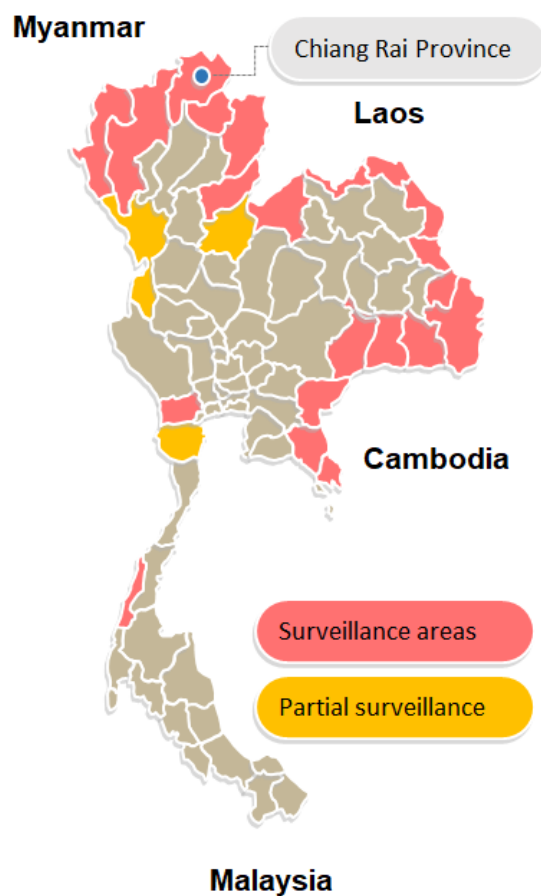
Since May, when the first outbreak was reported by the country, ASF has continued spreading despite the efforts to cull pigs and ban the distribution of pork. South Korean sources have reported that ASF has killed all pigs in North Pyongan province (*source: the Yonhap News Agency reported, citing South Korea’s intelligence agency*).

Thailand

Thailand continues to be on high alert for ASF. To date, according to the Thai Department of Disease Control, ASF has not been detected in Thailand. Neighboring countries Myanmar, Laos, and Cambodia have all confirmed cases of ASF. Mid-September, as a precautionary measure, Thailand’s department of livestock culled more than 200 pigs from two farms in Chiang Rai after some exhibited clinical signs of lethargy and poor appetite. These pigs were also within a 1 km radius of two pigs that died from unknown causes in the northern province of Chiang Rai. Blood tests confirmed all pigs, including the two pigs who died initially, were not infected with ASF.

The Deputy Agriculture and Cooperatives Minister, Prapat Pothasuthon, has assigned the National Livestock Division to take “**maximum precautionary measures**” in screening out suspicions of ASF at the Thai border. Pork products are banned from Myanmar, Laos, and Cambodia. Animal products brought by tourists without permission will be seized at border checkpoints. Additionally, farmers were briefed on standard swine farming with the goal of protecting their animals.

Further, the Swine Raisers Association of Thailand has been instructed to inform traders to not move pigs around and to quickly purchase slaughtered pigs to reduce potential exposure.



Map 4. Active surveillance in Thailand

Thai traders are exclusively buying pigs bred domestically. Other measures include spraying disinfectant solution on all vehicles crossing into the Thai border.

Additional precautionary culling occurred at the end of the month in the Chiang Rai Province (Map 4). Thousands of pigs were culled after the Department of Livestock Development discovered a shared, potentially ASF-infected water source, the Ruak river, with Myanmar. Dead pigs from Myanmar were dropped in this river which borders Thailand. Thai farmers sourced their water for their pigs from this river.

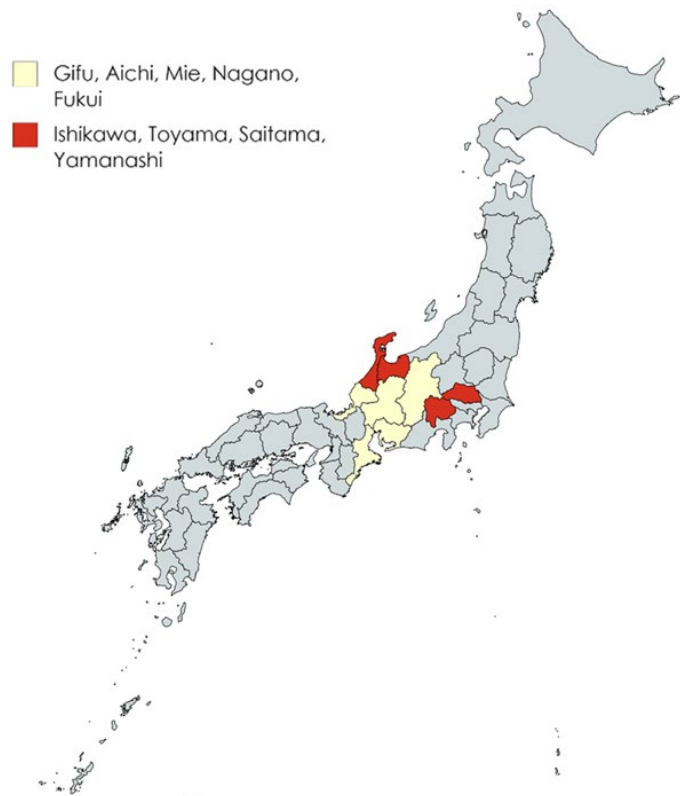
On September 27, 24 out of its 77 provinces (Map 4) have been designated as “surveillance areas” for ASF with pig and wild boar movement restrictions. Movement restrictions are also placed on carcasses, semen, and embryos for breeding. Violating these restrictions is punishable by imprisonment for up to two years and a fine of 40,000 baht (US \$1,306.34).

The Thai Swine Raisers Association’s president, Surachai Sutthitham, said he is “...confident Thailand can stay clear of the virus.”

Classical Swine Fever

Japan

On September 20, the Japanese government said it will shift its policy and allow the vaccination of domestic pigs to try to curve the spread of CSF in the country. The virus re-emerged in September 2018 after 26 years of the country being considered free of the disease. The virus, which was first found in a farm in central Japan, has since spread to four surrounding prefectures. The ministry has been hesitant to vaccinate commercial farms as a means to control the spread due to the impact on pork exports (vaccine use would prevent Japan from regaining its OIE status as a country free of the disease); however, the Chief Cabinet Secretary said, “Japan now faces a significant phase in coping with the epidemic and will endeavor to promptly address the issue, including how to respond to the possible impact on exports.” Japan currently has enough vaccines to vaccinate about 1 million pigs but has asked makers of livestock drugs to boost production of the CSF vaccine as the disease has spread to the eastern area, one of Japan’s main pork-producing regions.



- **Expert interview**

During the Lemman Conference 2019, the University of Minnesota was able to catch up with Dr. Satoshi Otake to discuss the current situation of CSF in Japan. Dr. Otake started by mentioning the index case of CSF that first appeared in Gifu province. He said that they were able to isolate the virus and after sequencing it, they determined that the strain is different from the infectious strain 26 years ago. Although it remains unclear how the virus entered the country, the strain was identified to be very similar to the current strains circulating in China. It is speculated the index farm got infected directly or indirectly through wild boar. The control current strategies by the ministry are: 1) to stamp-out infected premises and restrict pig movement, 2) encourage producers to focus on biosecurity for farms, 3) encourage producers to set up fencing in order to prevent the introduction of wild boars and other wild animals, 4) government use of oral bait vaccines for wild boar in affected prefectures, and 5) encourage producers who are located in very high-risk areas to voluntarily vacate the premises.

“JPPA (Japanese Pig Producer Association) and JASV (Japanese Association of Swine Veterinarians) have suggested that our government enhances vaccination for the wild boar population, and to make a decision for regional vaccination of commercial pig farms for a limited period of time,” Dr. Otake highlighted. In this regard, the use of a marked vaccine that would allow differentiating vaccinated from infected animals is under discussion. This tool would be extremely useful to implement effective surveillance activities required for a vaccination program in specific zones, without affecting the status of free without vaccination as recognized by the OIE for the rest of the country.

What is troubling though, is despite Japan’s effort to control the disease for over a year using recommendations outlined by the OIE and other experts, Japan has still not managed to control the disease. Dr. Otake indicated that one of the reasons that CSF may be difficult to control is that there still is not a clear idea of how it is spreading. He says it could be due to wild boar, vehicles, and animal or feed movements. Other challenges he discussed that have been difficult for control is the fact that the virulence of the virus is quite low. Dr. Otake points out that with the CSF strains circulating in the country, it is difficult to detect the clinical signs early in a barn due to its low virulence. This makes early diagnosis and control challenging.

Finally, we asked Dr. Otake what lessons have been learned that could be shared with swine practitioners in the US and other countries to be prepared for CSF. He said that it is important to collaborate with government agencies when these diseases are suspected or arise because as private practitioners, we do not have the authority to make any decisions regarding FAD strategies and controls. However, he does point out that private practitioners can make significant influences on it. Producers should take note that it can be difficult to detect clinical signs in barns early so as not to rely on this for control. Farmers should constantly be vigilant, and biosecurity is the most important piece in the puzzle. He also stated that strategies used to control PRRS and/or PED can be expanded to control for other FAD including CSF. He closed by warning that ASF could be coming next and that all must be prepared.

Dr. Otake, is the [CEO of Swine Extension & Consulting, Inc. and Swine Extension & Innovation, Inc.](#), [board member of the Japanese Association of Swine Veterinarians](#) and [partner in the Swine Disease Eradication Center of the University of Minnesota](#)

Since interviewing Dr. Otake, Japan has released a statement that they will begin vaccinating commercial pigs for CSF as current control efforts are not succeeding.

Aujeszky's disease

Finland

On September 24, Finland reported to the OIE the first occurrence of Aujeszky's disease (AD) in the country. A hunted wild boar was found seropositive for Aujeszky disease in Tohmajärvi municipality, in the eastern province of Itä-Suomi, less than 15 miles from the border with Russia.

This finding does not affect the official Aujeszky's disease free status of Finland, since it was found in a wild boar, while the domestic pig population remains free of the disease. Authorities state that all domestic pigs kept outdoors in Finland are protected from contacting wild boars by double fencing. Finland has run an active surveillance through annual serological surveys for AD and porcine reproductive and respiratory syndrome (PRRS) since 1993.

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