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China's African Swine Flu Outbreak: Implications for U.S. Food Safety and Trade

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Key Findings

- A swine flu outbreak has significantly reduced China's hog population. The impact is expected to result in increased U.S. pork exports to China but decreased exports of animal feed products like soybeans and sorghum.
- China's poor food safety regulations and inspection systems contributed to the spread of the ASF virus.
- Because the United States does not import pork from China, the outbreak does not currently pose a direct threat to U.S. public health or farmers. However, the virus could still spread to U.S. hog farms through contaminated nonpork products or pet food.

Swine Flu Outbreak Threatens China's Pig Industry

In August 2018, hogs in China's Liaoning Province tested positive for African swine fever (ASF). Although not harmful to humans, ASF is deadly and highly contagious to pigs.¹ By April 2019, Chinese government data revealed the disease had been identified in all of China's provinces and reduced the country's hog population* by more than 53 million (from 428 million to 375 million), a 12.5 percent decline in the country's pig stock.² Ma Chuang, a deputy secretary general with the Chinese Association of Animal Science and Veterinary Medicine, estimates China's hog stock may drop by as much as 30 percent in 2019 compared to 2018, or 128 million hogs.³

China produces and consumes about half of the world's pork volume annually, and relies on imports for only a small portion of its domestic pork consumption. In 2018, China produced 54 million metric tons of pork, or 47.8 percent of the 113 million metric tons produced worldwide.⁴ That year, China consumed more than 55 million metric tons of pork, of which only 1.6 metric tons (or 2.8 percent) was imported.⁵ The ASF outbreak, however, has triggered a spike in China's pork imports as the country seeks to offset the decrease in domestic production; the country's pork imports are expected to increase by 41 percent year-on-year in 2019.⁶ It is expected to take a minimum of 20 months for China to replace its hog herd, meaning the country is projected to experience increased demand for pork imports through at least 2020.⁷

In response to the outbreak, China has culled infected hogs, imposed a transportation ban on live hogs throughout China, and closed trading markets.⁸ It is unclear if China is incinerating contaminated hogs, a practice in line with U.S. guidance on handling potentially contaminated food products.⁹

* The drop in China's pig stock is a result of pigs dying from ASF and pig farmers choosing not to breed pigs for fear they will contract ASF.

Chinese Food Safety Regulations Remain Insufficient

China's food safety laws are generally below U.S. standards,* and there remain broader concerns about China's food and agriculture health standards. The Commission examined these risks in its 2018 Annual Report to Congress, which concluded that the most significant regulatory shortcomings include:

- *Small-scale agricultural producers:* China is estimated to have as many as 200 million individual households engaged in farming relatively small plots of land, and more than 400,000 registered small or medium food processors.¹⁰ This creates a challenge for Chinese inspectors as they cannot inspect every food producer to ensure food safety compliance.¹¹ Beijing is also reluctant to penalize small-scale farmers for poor safety conditions, as prosecuting poor farmers would be politically unpopular.¹²
- *Limited inspection resources:* Chinese food inspectors lack sufficient training on China's food safety regulations and utilize conflicting inspection standards as opposed to one uniform system. These problems are particularly acute in less developed provinces, which often lack the tools to inspect all food products.¹³

These shortcomings were a major contributor to the spread of the current ASF outbreak. Because many local Chinese farmers did not report or acknowledge the initial ASF outbreaks, safety precaution measures were implemented too slowly to effectively contain the virus. Some farmers also disposed of dead pigs in rivers and ditches across the country without notifying authorities, allowing the disease to spread quickly.¹⁴

Impact of the ASF Outbreak on the United States

Implications for U.S. Pork Exports

The ASF outbreak has decreased the global pork supply, leading to higher pork prices and greater demand for nonpork meat products like beef and poultry.¹⁵ Thus, the outbreak may result in greater U.S. pork and other meat exports to China despite high tariffs and a ban on ractopamine, a feed additive widely used by U.S. pork producers.¹⁶

Tang Ke, a department director at China's Ministry of Agriculture and Rural Affairs, indicated Chinese pork prices could rise by more than 70 percent in 2019.¹⁷ Global pork prices, meanwhile, increased around 40 percent between February and April 2019.¹⁸ As a result, U.S. hog farmers who normally sell domestically are expected to begin exporting their product because they can make more money selling in China, even with the additional cost imposed by tariffs.¹⁹ The early effects of increased Chinese pork prices can already be seen in U.S. pork exports to China. In March 2019, China made its largest purchase of U.S. pork since April 2017, buying nearly 24,000 metric tons.²⁰

The ASF outbreak presents an opportunity for U.S. pork producers to increase their exports to China after recent declines in exports due to increased tariffs imposed by Beijing. In April 2018, Beijing imposed a 25 percent tariff on U.S. pork imports in retaliation for U.S. tariffs placed on Chinese goods.²¹ Combined with other tariff measures on U.S. pork, China currently imposes duties of up to 62 percent on U.S. pork products.²² As a result of these tariffs, U.S. pork exports to China declined in 2018 and early in 2019. In 2018, U.S. pork exports to China declined 28.7 percent year-on-year by volume, from 309,200 metric tons in 2017 to 220,435 metric tons in 2018.²³ In the first two months of 2019 (the latest available data), U.S. pork and pork product exports to China totaled 42,000 metric tons, down from 46,300 metric tons in 2018.²⁴

However, increased U.S. pork exports will primarily benefit a Chinese company. The United States' largest pork producer, Smithfield Foods, was acquired by the Chinese firm Shuanghui Group (now called WH Group) in 2013. Smithfield is one of a few U.S. companies with a large share of ractopamine-free pork, having announced the shift toward ractopamine-free production just weeks before the Chinese takeover was announced.²⁵ As of 2017, Smithfield accounted for 76 percent of all U.S. pork exports to China.²⁶

* For more on the status of China's food safety laws, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, "China's Agricultural Policies: Trade, Investment, Safety, and Innovation" in *2018 Annual Report*, November 2018, 143.

Implications for U.S. Soybean and Sorghum Exports

U.S. exports of hog feed products like soybeans and sorghum are expected to decline during the ASF crisis as demand for feed drops in China. For the first time in 15 years, Chinese soybean imports fell in 2018 to 88 million tons, a 7.9 percent decline year-on-year, and could drop again to 71 million tons in 2019 and 2020 as demand for hog feed declines along with China's shrinking hog population.²⁷ Agriculture analysts predict China's soybean demand will not return to pre-ASF levels for between three to five years.²⁸ The sale of these feed products is also subject to political pressures as the United States and China continue to engage in trade negotiations.

In July 2018, China imposed a 25 percent tariff on U.S. soybeans and sorghum, key ingredients in animal feed and two of the largest U.S. exports to China.²⁹ As a result of the tariffs, U.S. soybean and sorghum exports to China have already declined significantly (see Table 1).³⁰

Table 1: Volume of U.S. Soybean and Sorghum Exports to China, 2017–February 2019
(million metric tons)

	2017	2018	% Change	2018 (Jan–Feb)	2019 (Jan–Feb)	% Change
Sorghum	4.6	2.7	- 41.1%	1.3	N/A	N/A
Soybeans	31.7	8.3	- 74.0%	5.3	3.5	- 35.0%

Source: U.S. Department of Agriculture Foreign Agriculture Service, *Global Agricultural Trade System Online*, May 1, 2018. <https://apps.fas.usda.gov/gats/default.aspx>.

Implications for Food Safety and Food Security

After the outbreak was reported in China, ASF cases were reported in Mongolia, Vietnam, Cambodia, and Hong Kong, and could still spread to other markets.^{*}³¹ However, the risk to the U.S. food supply appears limited at present.[†] First, because the United States does not have an equivalency agreement with China on pork, Chinese pork and pork products are not eligible for import into the United States.[‡]³² Second, the U.S. government has regulations in place to restrict pork imports from all countries affected by the ASF outbreak.³³

Although U.S. government policies reduce the risk of ASF contaminating the U.S. hog supply, the outbreak could still spread to the United States via contaminated nonpork products. A pork virus that killed millions of U.S. pigs between 2013 and 2015, for example, likely originated in China and spread to the United States from contaminated feed bags used to import nonpork products to the United States.³⁴ The ASF virus is similarly transmissible via contaminated clothing, equipment, and animal feed.³⁵ Pet food products containing pork are another potential avenue for ASF to spread in the United States.³⁶

A widespread outbreak could have a significant impact on U.S. food security if it leads to decreased pork production.³⁷ But industry experts are not currently concerned about potential threats to U.S. food security; as long as ASF does not spread to U.S. hog farms, U.S. pork production may increase as farmers breed more livestock to take advantage of the reduced global supply and higher prices.³⁸

^{*} Since the original outbreak in August 2018, Australia, South Korea, Japan, and Taiwan have all reported confiscating products with ASF at ports of entry. Swine Health Information Center, "Swine Disease Global Surveillance Report," *University of Minnesota*, January 16, 2019. <https://www.swinehealth.org/wp-content/uploads/2019/01/Jan2019-GSDMR.pdf>.

[†] To date, no country that exports pork to the United States has experienced an ASF outbreak or confiscated ASF-infected products. U.S. Department of Agriculture Economic Research Service, *Pork: Monthly U.S. Trade – All Months and Countries*, April 18, 2019. <https://www.ers.usda.gov/data-products/livestock-and-meat-international-trade-data/>.

[‡] Under U.S. Department of Agriculture regulations, products containing more than 3 percent raw pork, 2 percent cooked pork, or 30 percent pork fat, tallow, or extract are considered pork products and thus not eligible to be imported from China. U.S. Department of Agriculture, *Imported Food Products Containing a Small Amount of Meat, Poultry, or Processed Egg Product Ingredients*. <https://www.fsis.usda.gov/wps/portal/fsis/topics/international-affairs/importing-products/imported-food-products-containing-a-small-amount-of-meat-poultry-or-processed-egg-product-ingredients>.

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