

Voluntary Report – Voluntary - Public Distribution

Date: September 17,2020

Report Number: TW2020-0045

Report Name: Taiwan Eradicates Foot and Mouth Disease But Challenges Remain for Returning to Pork Export Market

Country: Taiwan

Post: Taipei

Report Category: Livestock and Products, Sanitary/Phytosanitary/Food Safety

Prepared By: Troy Lai

Approved By: Mark Petry

Report Highlights:

On June 16, 2020, Taiwan was officially recognized as free from foot and mouth disease (FMD) without vaccinations by the World Organization for Animal Health (OIE). Taiwan has been shut out of the global pork market since a 1997 FMD outbreak. The loss of export markets forced Taiwan producers to focus on pork production for the Taiwan market, which resulted in the reemergence of more traditional swine production practices. While Taiwan now has an OIE-recognized FMD-free status, Taiwan remains as an epidemic area for classical swine fever (CSF). CSF will need to be addressed by Taiwan's animal health regulatory authorities to enable Taiwan pork producers to fully participate in the global pork market.

Introduction

On June 16, 2020, the World Organization for Animal Health (OIE) officially recognized Taiwan as a zone free from foot and mouth disease (FMD) where vaccination is not practiced.

Kinmen county was not included in the OIE announcement and remains as an FMD-free zone where vaccination is practiced. Kinmen is one of Taiwan's offshore islands and lies 161 km to the west of Taiwan, and 16 km off the southeastern coast of mainland China.

Taiwan had a devastating FMD outbreak in 1997. The local pig farming industry was hard hit and the entire export market was shut off. Taiwan began FMD vaccinations after the outbreak and gained FMD-free status with vaccinations in 2003. An attempt to stop vaccinations in 2009 failed and Taiwan regained FMD-free status with vaccinations in May 2017. In July 2018, Taiwan stopped vaccinating pigs for FMD and there were no new FMD cases reported in the following 12 months. In September 2019, Taiwan applied to the OIE for the recognition of FMD-free status and obtained the recognition in a resolution on June 16, 2020. To date, the only two Asian countries recognized as FMD-free without vaccination by the OIE are Japan and Taiwan.

Official OIE recognition provides Taiwan pork producers with the potential to re-open pork export markets that were lost in 1997. Taiwan's Council of Agriculture (COA) is working on several market access requests with the official authorities in Singapore, Hong Kong, Macau, and several Southeast Asian countries. Nevertheless, Taiwan is still listed as a disease-infected area for classical swine fever (CSF) by OIE. COA has published a multi-year plan to eradicate CSF from the Island. Once CSF eradication has been achieved and recognized by the OIE, COA will initiate additional market access requests for fresh pork for countries where CSF-free status is required, such as Japan and the United States.

Facts about FMD

FMD is a severe and highly contagious viral disease. The FMD virus causes illness in cows, pigs, sheep, goats, deer, and other animals with divided hooves. It does not affect horses, dogs, or cats. Animals with FMD typically have a fever and blisters on the tongue and lips, in and around the mouth, on the mammary glands, and around the hooves. These blisters, called vesicles, pop, and turn into red areas called erosions. Pain and discomfort from the vesicles and erosions lead to other signs of illness such as depression, anorexia, excessive salivation, lameness, and reluctance to move or stand. Most affected animals will not die from FMD, but the disease leaves them weakened and unable to produce meat and milk the way they did before becoming sick.

FMD can spread when infected animals bring the virus into physical contact with susceptible animals. The disease can spread widely and rapidly and causes production losses with grave economic consequences. It also has serious impacts on livestock trade - a single detection of FMD will likely stop international trade completely for a lengthy period.

Source : https://www.aphis.usda.gov/publications/animal_health/fs-fmd-general.pdf

FMD outbreak in Taiwan

On March 17, 1997, Taiwan confirmed the first case of FMD in pigs, infected by smuggled weaning pigs from mainland China. The epidemic spread throughout Taiwan within two months and affected over 6,000 pig farms resulting in the depopulation of over 3.85 million pigs.

Prior to the outbreak, Taiwan had been free from FMD for more than 68 years. According to COA, Taiwan used to be the second largest exporter for pork products in the world. The number of on-farm pigs totaled about 10.7 million head in 1996 and there were more than 25,000 pig farms. Pork producers had the highest output value among all the agricultural sectors in Taiwan, with an output value at TWD \$88.6 billion (USD \$3 billion), accounting for more than 20 percent of the total agricultural output.

In 1996, the value of pork exported to Japan reached a high of USD \$1.55 billion. About 40 percent of the fresh pork produced locally was shipped to Japan. Taiwan was able to ship chilled pork meat to Japan at very competitive prices due to geographic proximity. Chilled pork can offer a much better taste than frozen pork exported from other countries, hence Taiwan pork was very popular in Japan at that time. Taiwan also raised some traditional breeds that were popular in Japan.

The 1997 outbreak shut off the entire pork export market in a short period. Many pig farms and pig related businesses went bankrupt. The total economic loss was estimated at USD \$4.4 billion and overall domestic GDP decreased by 0.4 percent. Government data shows that the year-on-year change of annual pig slaughter decreased 22 percent at the end of 1997, while the output value of pig production decreased 45 percent. Pork production further declined in the following years as producers switched to supply domestic Taiwan markets as opposed to international markets.

Taiwan Pig Industry Pre- and Post-FMD

	Pre-FMD (1996)	FMD-free Status with vaccinations (2019)
Number of pig farms	25,357 farms	6,759 farms
Number of pigs on farms	10.7 million head	5.51 million head
Annual slaughter number	14.31 million head	7.98 million head
Annual output value of pig industry	TWD \$88.6 billion	TWD \$71 billion
Annual export volume	40% (about 6 million heads)	-

Source: COA (1 USD \approx TWD 38.7 in 1996, 1 USD \approx TWD29.5 in August 2020)

Potential for re-opening the export market

Currently Taiwan exports a limited volume of pork products to several Asian countries, most of the products are cooked and processed pork. The top importer is currently Hong Kong. Taiwan also exports a small amount of breeding pigs. In 2019, the total export number was about 1,200 head and the top importer was Vietnam, followed by Hong Kong. Breeding pig exports have continued growing in recent

years, especially to Hong Kong. People in Hong Kong have similar food preferences as Taiwan, and consumers enjoy the flavor of Taiwan black pigs.

Taiwan Exports of Pork and Pork Products in 2019

Top export country	Frozen pork		Top export country	Processed pork products	
	Value (1,000 USD)	Volume (MT)		Value (1,000 USD)	Volume (MT)
Total	105	32	Total	12,904	1,713
Vietnam	27	13	Hong Kong	8,251	1,216
Korea	13	3	Japan	2,738	324
Solomon Islands	12	3	Australia	680	48
Hong Kong	9	1	China	583	36

Source: Bureau of Foreign Trade

Exporting pork to a new country generally involves government-to-government bilateral discussion and subsequent agreement from the importing country. This process may take months or years to complete. Taiwan government has conducted market analysis to select the potential export countries and collected the regulations and requirements for pork import through Taiwan's overseas representative offices in these countries. COA already submitted market access requests to several Asian countries, and some progress has been made with Singapore, Malaysia, Vietnam, and Hong Kong.

The first batch of chilled pork was shipped to Macau on July 10, 2020. Though the volume was only 500 kilograms, the exporter plans to supply chilled pork to Macau on a regular basis. COA expects more fresh pork exports to be initiated in the remainder of 2020.

However, Taiwan is still a CSF epidemic area and fresh pork sales are limited by this factor. COA states that Japan and the United States have more stringent regulations than Singapore, Hong Kong, and Macau, and require imported pork meat to be from CSF-free areas. Taiwan plans to make market access requests to Japan and the United States for fresh pork after CSF is eradicated.

Market Access Status for Taiwan Pork Exports

Country	Fresh pork	Processed pork products
Singapore	Submitted market access request in October 2019, responding to supplemental questions	18 plants approved for export
Japan	Require CSF-free status	6 plants approved for export
Malaysia	Submitted market access request in June 2020	Submitted market access request in June 2020
Vietnam	Submitted market access request in July 2020	No plan to apply market access
Hong Kong	Submitted market access request in August 2019	Has market access
Macau	Submitted document for review in January 2020	Has market access

Source: COA

Successfully guarded against African Swine Fever (ASF); ongoing effort to eradicate CSF

Taiwan stopped FMD vaccination on July 1, 2018. The first case of ASF in Asia was reported in mainland China on August 3, 2018. COA immediately deployed effective control measures for epidemic prevention, while ASF quickly spread out in many parts of the world. As of this report, Taiwan has not had a confirmed domestic ASF case. It is expected that most of the enhanced management rules and bio-security measures imposed on pig farms for ASF prevention will remain even after the threat from ASF eases up, as these practices will help combat most of the contagious animal diseases. COA has been planning to transform and upgrade the pig production industry, keeping Taiwan free from contagious animal disease will be an integral part of the plan.

While COA is striving to block ASF from entering Taiwan and maintain the hard-earned FMD-free status, Taiwan is still vaccinating pigs for CSF control. There have been no reported CSF cases for more than ten years. However, COA foresees challenges ahead for CSF eradication. Starting this year, COA began to practice partial herd vaccination in a few pig farms and continues island-wide monitoring activities on pig farms, slaughterhouses, and rendering facilities for any presence of the CSF virus. The outcomes will help COA draw up the eradication plan. After achieving eradication, it will take up another three years to go through OIE procedure for the recognition of CSF-free status.

Limited by its current disease status, the potential export markets for Taiwan's fresh pork are countries like Singapore, Hong Kong, Macau, and Malaysia. These markets do not have sustainable local pig production, so animal disease is a less critical component for market access requests. Countries like Japan and the United States require the exporting country to be free from CSF and many other swine diseases.

Assessing local production for export capability and competitiveness

COA data shows that in 2019 the number of pigs on farms is 5.51 million heads and total output value is TWD71 billion. Assuming Taiwan could successfully clear the hurdles to obtain market access in the targeted export countries, COA expects to increase the total number of pigs on farms by 1 million for export purposes in three to five years. As such, the annual output value of exports could exceed TWD10 billion.

Output Value of Pig Production in Taiwan

Year	Pig production		
	million TWD	% of total agriculture production	% of total animal production
2010	70,701	16.56 %	48.68 %
2011	75,158	15.80 %	47.22 %
2012	66,753	13.98 %	44.97 %
2013	66,463	13.78 %	44.32 %
2014	76,841	14.91 %	45.57 %

2015	71,739	14.25 %	43.76 %
2016	71,396	13.72 %	43.17 %
2017	75,558	13.86 %	46.11 %
2018	70,360	13.37 %	42.21 %
2019	70,944	14 % *	43 % *

Source : COA (1 USD \approx TWD 29.5 in August 2020)

* estimates

Taiwan's pork is relatively expensive, with a wholesale price of TWD \$61 to \$63 per kilogram, compared to about TWD \$50 for U.S. pork, and TWD \$35 for Canadian pork. COA believes it can develop markets in Singapore, Hong Kong, Macau, and other Southeast Asian countries with large Chinese populations, who are willing to pay a premium for Taiwanese pork with a flavor that fits well in traditional Chinese dishes.

Cost of Pig Production in Taiwan

Year	Production Cost (TWD / 100 kg)		
	Direct Cost	Indirect Cost *	Total Cost
2010	5,305	306	5,611
2011	5,963	260	6,223
2012	6,086	235	6,321
2013	6,085	259	6,345
2014	5,846	259	6,104
2015	5,467	272	5,740
2016	5,240	277	5,517
2017	5,184	292	5,476
2018	5,258	294	5,552

Source: COA (1 USD \approx TWD 29.5 in August 2020)

* Indirect costs include spending on facility maintenance, operation, waste treatment, local tolls, and levies, etc.

Wholesale Prices of Pig Carcass in the United States, Canada, Denmark, and Japan (TWD / 100 kg)

Year	US	Canada	Denmark	Japan
2010	5,646	4,153	5,185	17,086
2011	5,857	4,711	5,554	16,798
2012	5,518	4,546	5,768	16,331
2013	5,994	4,737	6,013	13,696
2014	7,359	5,702	5,579	16,998
2015	5,523	3,901	4,341	14,231
2016	5,587	3,632	4,649	15,685
2017	5,640	3,804	4,845	15,306
2018	5,000	3,440	4,140	14,119

Source: National Animal Industry Foundation (1 USD \approx TWD 29.5 in August 2020)

Taiwan's pig production industry is becoming larger in size and fewer in number. Pig farms at small and medium scales are gradually forced out of business. Based on a COA survey in 2019, there are 6,759 pig farms, which is the lowest number on record. However, the total pig inventory on farms increased by 1.3 percent to 5.51 million head, compared to 5.44 million head in 2018. The total slaughter number is 7.98 million head in 2019 and the production volume is 820,000 MT.

Numbers of Pig Farms and Pig Inventory

Year	No. of pig farms	No. of pigs on farms (million heads)
2010	9,965	6.17
2011	9,619	6.25
2012	9,167	5.99
2013	8,457	5.79
2014	7,889	5.53
2015	7,751	5.48
2016	7,523	5.43
2017	7,407	5.42
2018	7,241	5.44
2019	6,759	5.51

Source: COA

Numbers of Pigs Slaughtered and Annual Production

Year	No. of pigs slaughtered (million heads)	Average live weight (KG)	Carcass weight (thousand MT)
2010	8.58	119.5	845
2011	8.79	119.3	865
2012	8.97	118.7	878
2013	8.72	118.8	855
2014	8.07	122.5	815
2015	8.23	122.6	832
2016	8.14	123.1	827
2017	7.95	123.7	811
2018	8.07	124.4	829
2019	7.98	124.5	820

Source: COA

Many factors contribute to accelerate the reduction of farm numbers and the shift on farm size. First, there are more and more stringent environmental regulations and bio-security requirements, which is a big cost burden for small pig farms. In addition, pig farms are on the list of controlled operations mainly due to wastewater discharge and odor, so regulations require pig farms to keep a specific distance from neighboring facilities. It is becoming harder to find land meeting the distance requirement for new livestock farms, while building new livestock farms often sparks strong protest from local residents. Moreover, local governments put out extra environmental requirements to exceed the criteria set by central government, which further increases operational costs. As a result, many small pig farms choose

to abandon the business and only larger pig farms can cover the cost associated with facility improvement, waste treatment and tolls/levies etc.

Furthermore, the new biosafety rules aiming to prevent ASF also make the small-scale pig farms harder to operate. The first case of ASF broke out in China in August 2018 and spread out rapidly in Asia. In 2018-19, COA put out many new rules to prevent ASF from entering. One of them was to restrict the use of food waste as pig feed. Only the pig farms with heating facilities certified by Environmental Protection Agency can use food waste as feed, which needs to be thoroughly heated to avoid virus transmission. Pig farms unable to equip themselves with certified heating facilities, mostly small farms, must change to a higher cost formula feed. This caused many small pig farms to exit the business.

Numbers of Pig Farms by Scale

Scale	No. of pig farms			Percentage change (%)	
	2017	2018	2019	2017 vs. 2018	2018 vs. 2019
Registered for closure	150	193	114	28.67%	-40.93%
1 ~ 99 heads	2,354	2,178	1,955	-7.48%	-10.24%
100 ~ 199 heads	824	789	650	-4.25%	-17.62%
200 ~ 299 heads	404	389	382	-3.71%	-1.80%
300 ~ 499 heads	613	624	614	1.79%	-1.60%
500 ~ 999 heads	1,528	1,500	1,453	-1.83%	-3.13%
1,000 ~ 1,999 heads	1,067	1,064	1,054	-0.28%	-0.94%
2,000 ~ 2,999 heads	203	233	248	14.78%	6.44%
3,000 ~ 4,999 heads	141	145	150	2.84%	3.45%
Over 5,000 heads	123	126	139	2.44%	10.32%
Total	7,407	7,241	6,759	-2.24%	-6.66%

Source: COA

Numbers of Pigs on Farms by Scale

Scale	No. of pigs on farms				Average no. of pigs per farm	
	2018		2019		2018 (head)	2019 (head)
	1,000 heads	%	1,000 heads	%		
1 ~ 99 heads	68	1.25%	59	1.06%	31	30
100 ~ 199 heads	118	2.17%	98	1.78%	150	151
200 ~ 299 heads	95	1.74%	94	1.71%	244	247
300 ~ 499 heads	246	4.52%	246	4.46%	395	400
500 ~ 999 heads	1,130	20.74%	1,103	20.01%	753	759
1,000 ~ 1,999 heads	1,478	27.14%	1,475	26.75%	1,389	1,400
2,000 ~ 2,999 heads	558	10.25%	597	10.82%	2,396	2,407
3,000 ~ 4,999 heads	550	10.10%	568	10.30%	3,794	3,786
Over 5,000 heads	1,204	22.10%	1,274	23.10%	9,554	9,166
Total	5,447	100%	5,514	100%	773	830

Source: COA

Since the FMD outbreak in 1997, Taiwan stopped exporting pork and the production changed to solely supply for local consumption. Currently, the self-sufficiency rate for pork is about 90 percent and gradually declining. Most of Taiwan's pork industry is still using the same facilities, same equipment, and same operation from more than 20 years ago. The industry has not kept pace with the modernized international market because it has not needed to without export markets. To meet current international standards, the entire industry chain will need substantial upgrades, from equipment in livestock farms, slaughterhouses, cutting and packing plants, to biosafety control measures, hygiene standards, and HACCP systems. The government also needs to revise policies and regulations to harmonize with international standards and requirements in key import countries.

In 2019, the total number of pigs slaughtered in Taiwan was 7.98 million head, about 85 percent of which are traded through live auction markets. There are 24 pig auction markets, all of which use an on-site bidding system for each live pig. In other countries, it is more common to base the price on meat grading or carcass rating. Taiwan's population is concentrated in the north, while the pig farms are mostly located in central or southern area. Long-distance transportation of live pigs to a destined auction market is common, which raises many concerns such as hygiene, biosafety, animal welfare, and herd tracking. Reorganizing the traditional way of trading will also help facilitate the industry upgrade. In addition, none of the slaughterhouses are implementing HACCP systems. COA set up a phased plan to work with selected slaughterhouses for the introduction of HACCP systems into slaughtering operations.

Looking forward for Taiwan pig production

After eliminating CSF and going through the needed industry transformation and upgrade, Taiwan's government will be able to start market access discussions for fresh pork exports with countries like Japan and the United States. These are achievable goals for Taiwan to return to global pork market in the medium term, though this will pose many challenges ahead.

Attachments:

No Attachments.