

# Vaccines help keep **aphthous fever** down in China



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jinyu.com.cn  
theguardian.com  
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Meat consumption, especially the demand for pork, is growing fast in China. To minimize cases of the dreaded foot-and-mouth disease, the Chinese government has launched a National Compulsory Immunization Program. Technology is helping the local market leader supply the necessary amounts of vaccine.

**N**orthern China is famous for its Hulunbuir grasslands – the Eurasian Steppe, marked by hundreds of rivers, dotted with lakes and long characterized by a mix of Russian and Mongolian herder cultures.

From free-range animals to those reared on commercial farms, a large chunk of Chinese meat is still produced in the Inner Mongolian Autonomous Region. Its capital, Huhehaote – Mongolian for “the blue city” – is home to Jinyu Baoling Bio-Pharmaceutical, China’s largest producer of foot-and-mouth disease (FMD) vaccine. “Founded in 2007, Jinyu has a 40+ percent share of the total private and government-controlled market,” says Terry Wu, Sales Manager for Pharmaceutical and Biopharmaceutical Applications at GEA in Shanghai.

## FOOT-AND-MOUTH DISEASE

Also known as aphthous fever, this highly contagious disease affects cloven-hoofed animals. It is characterized by the formation of fluid-filled blisters and erosions in the mouth, nose, teats, and feet.

FMD is found around the world, except for in New Zealand, Australia, the United States, Canada, Mexico, and Chile. In Europe, only the Scandinavian countries have been spared outbreaks in recent decades. In Great Britain, in 2001, more than four million sheep, cattle, and pigs had to be slaughtered during a local FMD crisis.

Following the 2001 outbreak, the European Union’s non-vaccination strategy was powerfully contested. Up until 1992, around half of member states had carried out compulsory vaccination of cattle stocks to prevent an FMD epidemic. But vaccinations are a major constraint in international trade:

vaccinated animals, like infected animals, have antibodies in their blood and can only be separated from one another by means of specially marked vaccines. Although protected, they are not totally resistant – and they must be revaccinated at regular intervals.

## CHINA RELIES ON VACCINATION

In Europe, the disease is largely under control. Throughout East and Southeast Asia, however, FMD has proven a substantial burden over the past decades. After widespread type A FMD outbreaks forced farmers to destroy thousands of animals time and again, the Ministry of Agriculture of the People’s Republic of China launched the National Compulsory Immunization Program of Animal Disease. As a result, FMD vaccines have been funded by the government since 2015. As the Lanzhou Veterinary Research Institute of CAAS highlights, the vaccination procedure for animals in commercial farms is comprehensive: piglets receive their initial vaccination when they are 28–35 days old, and calves when they are three months old, followed by a stronger vaccination one month later and additional vaccinations every four to six months. Among free-range animals, vaccination is mandatory for all susceptible livestock in spring and autumn.

## JINYU SCALES UP

“In China, the market for veterinary vaccines is growing from year to year, by giant leaps. Jinyu Baoling Bio-Pharmaceutical went public to be able to keep pace and expand,” explains Wu. Jinyu has always counted on advanced technologies to help it retain its market-leading position and, in 2009, it decided to invest in a highly efficient vaccine production line. For Jinyu to ensure that the GEA Separator of type CSC15 allowed them to meet – and exceed – both their process and product quality standards, the machine was brought to Hohhot and installed for testing in real-life conditions. “It soon became clear that not only does the CSC15 run more reliably than the centrifuges previously used by Jinyu, it also ensures faster production and better outcome quality,” says Wu. “After that, Jinyu sourced another four centrifuges from GEA, including two CSE 170, which so far is the biggest disc centrifuge used for the production of FMD vaccine in China.”

As Research and Markets notes in its report, the Chinese market for the FMD vaccine is expected to keep growing at a rate of over 20 percent. It is expected that vaccinations will help Chinese farmers keep their herds healthy and prevent production losses as well as animal suffering.