



ASIA FOOT-AND-MOUTH DISEASE (FMD) NEW OUTBREAKS

FMD activity continued across Pool 1 (Southeast, East and Central Asia) and Pool 2 (South Asia), with serotypes O and A reported in several countries, while the emergence of SAT1 represented a significant change in the regional FMD Situation.

In Pool 1, SAT1 was detected for the first time in **China and Mongolia**. China reported two cattle outbreaks affecting 77 and 142 animals and initiated emergency vaccine preparations. Mongolia confirmed SAT1/III and continued to detect **O/ME-SA/Ind-2001e**. Cambodia reported three serotype O outbreaks (58 cattle), Malaysia one serotype A outbreak (6 cattle), and the Republic of Korea a third serotype O outbreak (1 pig farm and 5 cattle farms). Viet Nam reported serotypes O and A, while Indonesia reported untyped outbreaks and confirmed O/ME-SA/Ind-2001e in submitted samples.

In Pool 2, Bhutan confirmed serotype O, identified as **O/ME-SA/Ind-2001e** and **O/ME-SA/SA-2018** virus.

Overall, serotype O remained widespread, but the emergence of **SAT1/III** in China and Mongolia was the main regional concern because herd immunity and suitable vaccine availability are limited. Continued serotype A activity further highlights the need for enhanced surveillance, rapid virus characterization, biosecurity, movement controls and vaccine preparedness.

GLOBAL FMD SITUATION

The global FMD situation in Q2 2026 was dominated by the unprecedented spread of **SAT1/III** from the **Middle East into Europe, China and Mongolia**. The lineage caused more than 200 outbreaks in Cyprus and Greece combined and affected a wide range of susceptible species, including cattle, small ruminants, pigs and yaks.

Southern Africa also experienced a separate **wild-type SAT1/III** upsurge involving South Africa and neighbouring countries, together with continued SAT2 activity. Meanwhile, **O/ME-SA/SA-2018** became increasingly important in Pool 3, while **O/ME-SA/Ind-2001e** remained active across Asia. These developments prompted intensified surveillance, biosecurity, movement controls, culling and large-scale vaccination campaigns in several affected countries.

◆ WESTERN EURASIA / NEAR EAST (POOL 3)

SAT1 continued across the Middle East. Israel and the Golan Heights reported eight outbreaks, Palestine recorded its first two outbreaks, and Syria confirmed SAT1/III. Iraq reported 83 outbreaks plus eight in Kurdistan, while Türkiye reported eight outbreaks involving O and SAT1 and vaccinated more than 2.8 million animals. Azerbaijan, Georgia and Armenia also conducted large-scale vaccination campaigns.

◆ AFRICA

North and Eastern Africa (Pool 4): Libya reported five serotype O outbreaks. Egypt vaccinated almost 3.5 million animals, while Sudan and Tanzania notified isolated untyped outbreaks and Uganda announced mandatory FMD vaccination from July 2026.

West/Central Africa (Pool 5): Mali notified of one historical untyped outbreak affecting 15 cattle. No Pool 5 samples or sequences were received during the quarter.

Southern Africa (Pool 6): SAT1/III affected Botswana (22 outbreaks), Eswatini (23), Lesotho (19), Zambia and South Africa. SAT1/II was also detected in Eswatini. South Africa reported 553 SAT1 and 663 SAT2 outbreaks, while no SAT3 had been reported since March 2025. Zimbabwe sequences were identified as SAT2/I.

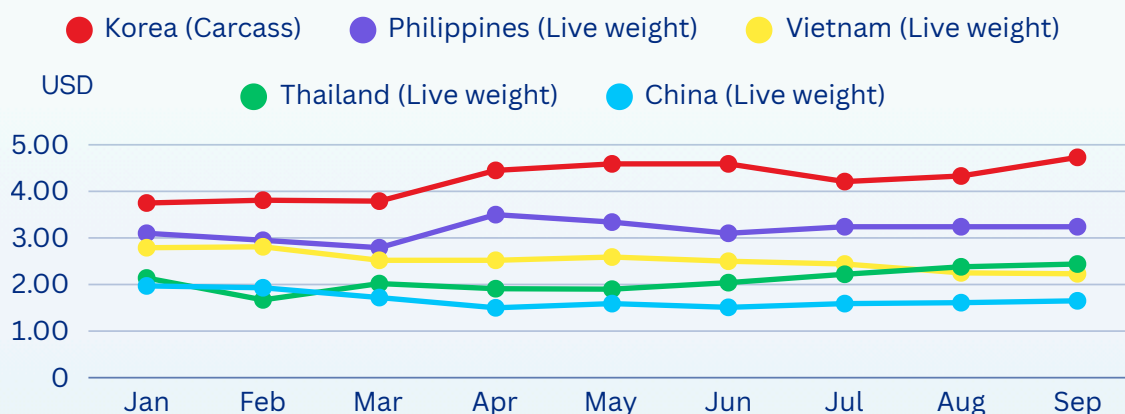
◆ SOUTH AMERICA (POOL 7)

No new outbreaks of foot-and-mouth disease were reported in South America.

◆ EUROPE

SAT1/III caused major outbreaks in Cyprus and Greece. Cyprus reported 72 outbreaks, vaccinated most livestock in restricted areas and culled more than 70,000 animals. Greece reported 123 outbreaks on Lesvos and culled more than 37,000 animals under strict quarantine, movement controls and whole-herd stamping-out.

2026 PIG PRICE TREND



2026 AVERAGE PIG PRICE YTD

\$4.25*

\$3.17

\$2.52

\$2.08

\$1.67

* Carcass price

Asian pork markets remain mixed: prices are weak or softening in China, Vietnam and the Philippines due to ample or recovering supply, firming in Thailand, elevated in South Korea because disease has constrained domestic production, and weakening in Japan as demand softens, while Taiwan appears comparatively stable.

Asian swine markets are gradually rebalancing, but uneven supply, persistent disease risks, import dependence, and cautious demand continue to pressure prices and margins. Producers are strengthening biosecurity and cost control while investing in genetics, optimized nutrition, modern facilities, automation, AIoT, and data-driven management to improve productivity and resilience.

SWINE INDUSTRY NEWS & OUTLOOK



China: Oversupplied market, moving toward gradual rebalancing

China's pork market remains oversupplied, with hog prices 33% below last year. Producers are reducing the sow herd, while authorities monitor inventories and slaughter weights. Prices may recover modestly in late Q3 or Q4, but weak demand will limit gains.



Thailand: Hog Prices Improve as Disease Preparedness Intensifies

Thailand's hog prices improved in September, reaching THB 72-78/kg against a Q2 production cost of THB 71.76/kg. Authorities are strengthening border surveillance, laboratory capacity, and FMD SAT1 vaccine preparedness. Margins may improve if prices hold, but disease, feed costs, illegal imports, and regional supply remain key risks.



Vietnam: Growing supply with persistent disease and margin pressure

Vietnam's hog prices are softening as supply grows, while higher costs and ASF pressure farm profitability. Smaller producers are exiting as larger farms invest in genetics, biosecurity, and modern facilities. Production will likely rise in second half of 2026, weighing on prices, but lower input costs may support margins.



Philippines: Recovering production but still import-dependent

Philippines' pork production is recovering, but the herd remains below last year and imports still cover supply gaps. Authorities are supporting herd rebuilding and vaccination, while importers diversify through Brazil and Spain. Imports will remain strong, with domestic prices gradually recovering as the herd rebuilds.



South Korea: Disease-constrained supply supporting prices and imports

Disease losses have reduced slaughter and raised pork prices, while demand remains weak. Producers are managing inventories and promotions as importers diversify toward European pork. Imports should stay strong until production recovers, then prices may ease in second half of 2026.



Japan: Softer consumption with rising import requirements

Japan's pork demand has weakened since mid-May amid inflation and a weaker Yen. Importers are sourcing more affordable pork from the US, Canada, Brazil, and Mexico. Imports are expected to rise, while summer heat may reduce domestic production and weak demand may limit prices.



Taiwan: Stable sector under heightened biosecurity

Taiwan's commercial pig sector remains stable, with no ongoing ASF circulation reported. Authorities have tightened border controls, farm surveillance, and movement management after ASF-positive carcasses were found near Kinmen. Production remains stable, while export growth depends on disease control, market access, and competitive pricing.

Source: Compiled and summarized by Biogénesis Bagó Asia

CHOOSE THE RIGHT FMD VACCINE



Not all FMD vaccines provide the same level of protection. No single laboratory parameter can fully predict field performance. An effective vaccine selection strategy should combine evidence of antigenic relevance, potency, immune response, quality and safety, and field performance, while considering the local epidemiological and operational context.

1

ANTIGENIC RELEVANCE

Can the vaccine recognize the circulating virus?

Vaccine matching using the r_1 -value assesses the antigenic relationship between a vaccine strain and a circulating field virus.

An acceptable r_1 -value can support vaccine selection, but r_1 should not be used alone to predict protection.

A highly potent vaccine may still provide protection against a field strain despite a low r_1 -value.

MATCHING ≠ PROTECTION



2

VACCINE POTENCY

Can the vaccine generate a strong enough immune response?

Potency is a critical factor influencing the strength, speed and breadth of vaccine-induced protection.

≥3 PD₅₀/dose → minimum standard potency for routine vaccination

>6 PD₅₀/dose → high potency, recommended for emergency vaccination



High-potency vaccines generally induce stronger immune responses and may provide broader cross-protection against antigenically divergent field strains.

3

IMMUNE RESPONSE & CROSS-PROTECTION

Can the vaccine induce protective immunity against circulating field strains?

Neutralising antibody titres provide important information about the functional immune response induced after vaccination. This can reflect both vaccine potency and antigenic relationship. A strong response indicates a greater likelihood of protection.



Where uncertainty remains, **heterologous challenge** studies provide the strongest evidence of cross-protection against relevant field viruses, supported by field-performance data.

4

QUALITY, SAFETY & PURITY

Does the vaccine consistently meet recognised manufacturing and quality standards?

- ✓ Safety and complete virus inactivation
- ✓ Potency maintained throughout shelf life
- ✓ Antigen stability and capsid integrity
- ✓ Purity, minimized NSPs
- ✓ Compliance with International manufacturing and quality standards



**HIGHLY PURIFIED VACCINES
SUPPORT DIVA SURVEILLANCE**

5

FIELD PERFORMANCE

Does the vaccine provide effective protection under real-world conditions?

Laboratory results provide essential evidence, but real-world vaccine effectiveness is also influenced by vaccination coverage, cold-chain management, administration practices, vaccination schedules, animal health and the intensity of virus exposure.



Post-vaccination monitoring is therefore essential to confirm that vaccination has achieved adequate population immunity, not simply that animals have received a vaccine.



Don't choose an FMD vaccine based on strain name, a single matching result, or price alone.

Choose a fit-for-purpose vaccine supported by multiple lines of scientific and field evidence, and verify its performance through post-vaccination monitoring.

SCIENTIFIC EVIDENCE

BIOAFTOGEN® SAT1

PROVEN CROSS-PROTECTION AGAINST EMERGING SAT1 TOPOTYPE III



WHY DIRECT EVIDENCE MATTERS

Current vaccine matching data (r_1 value) provide useful information on antigenic relationships, but they do not confirm whether vaccination can protect against field viruses. Controlled in vivo challenge studies remain the gold-standard to demonstrate vaccine efficacy.

PROVEN PROTECTION

Independent challenge study confirms the efficacy of BIOAFTOGEN® SAT1 against a recent SAT1 Topotype III field virus.

86%

PROTECTION
AFTER ONE DOSE



6/7 animals protected



100%

PROTECTION
AFTER TWO DOSE



7/7 animals protected

THE STUDY



Conducted by:

FAO reference Laboratory for FMD
Wageningen Bioveterinary Research (WBVR),
The Netherlands.



Challenge virus:

SAT1/LEB/8/2025 (Topotype III)
Recent field isolate from Lebanon in 2025



Vaccine:

BIOAFTOGEN® SAT1 DIVA vaccine
Containing the SAT1 2020 strain (topotype I)
Bioaftogen® SAT r_1 value = 0.11
High-potency, purified antigen, water-in-oil
single emulsion, GMP standard.

STUDY DESIGN



Group 1 (n=7)

1 dose (2 mL) at day 0
Challenge at 21 dpv



Group 2 (n=7)

2 doses (2 mL each) at 0 & 21 dpv
Challenge at 42 dpv



Group 3 (n=2)

Unvaccinated control
Challenge with Group 1 & Group 2

KEY FINDINGS



BIOAFTOGEN® SAT1 provided strong protection against SAT1 topotype III, even with a low r_1 value (0.11)



Protection rate of 86% after one dose and 100% after two doses



Confirms that vaccine efficacy cannot be predicted by antigenic matching alone



Supported by previous homologous studies confirming high potency vaccine $>128PD_{50}$



Biogénesis
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A GLOBAL LEADER IN ANIMAL HEALTH

Biogénesis Bagó is a global animal health company dedicated to developing innovative and high quality solutions that improve animal health, food production and people's well-being.



70+
YEARS

Animal health
expertise



60+

COUNTRIES
Trusted across
global markets



1300+
PEOPLE

Commit to
animal health



8

FACTORIES
Supporting reliable
global supply



R&D
FOCUS

Science-driven
innovation

OUR STRENGTH IN FMD

For more than 70 years, Biogénesis Bagó has been at the forefront of FMD prevention, supporting national and regional control and eradication programs around the world.



COMPLETE FMD VACCINE PLATFORM

BIOAFTOGEN® PLATFORM offers well-characterized strains and flexible formulations from monovalent to hexavalent, delivering broad antigenic coverage, high potency, proven safety, and reliable protection.



ANTIGEN & VACCINE BANK

Biogénesis Bagó operates one of the world's most comprehensive FMD antigen banks, supporting strategic national vaccine banks in the United States, Canada, Taiwan, Argentina, South Korea, and Brazil.



PROVEN GLOBAL FIELD EXPERIENCE

Extensive experience and a proven track record in routine vaccination, emergency response, and national FMD control and eradication programs worldwide.

CONTINUOUSLY EVALUATED BY WRLFMD

BIOAFTOGEN® vaccine strains are continuously evaluated by WRLFMD against circulating field viruses, supporting broad antigenic coverage and relevance against evolving FMD threats.

Scan the QR code

to explore the cross-protection of BIOAFTOGEN® vaccine strains against field isolates from different serotypes and topotypes across the world.



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