

Lessons Learned from the Successful Eradication of African Swine Fever (ASF)

WOAH Epidemic Intelligence Webinar: Event-Based Surveillance for Animal Health in the Asia-Pacific

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World Organisation
for Animal Health



INDEX FARM



DATE OF INCIDENT	October 21, 2025
LOCATION	Taichung City (Wuqi District)
REPORTING AGENCY	Taichung City Animal Protection and Health Inspection Office (LADIA)
VIROLOGICAL CONFIRMATION	Dead-pig sample tested positive for ASF viral nucleic acid via PCR, subsequently confirmed through virus isolation.

The Golden 24 Hours: Immediate Containment

October 21

Localized Containment

- 3 km radius movement control enacted.
- 195 pigs preemptively culled at the index farm.
- Comprehensive Site Cleaning & Disinfection.

October 22
(Morning)

Command Activation

- ASF Central Emergency Operation Center (**CEOC**) convened.
- Forward command post established directly in Taichung City.

October 22
(12:00 PM)

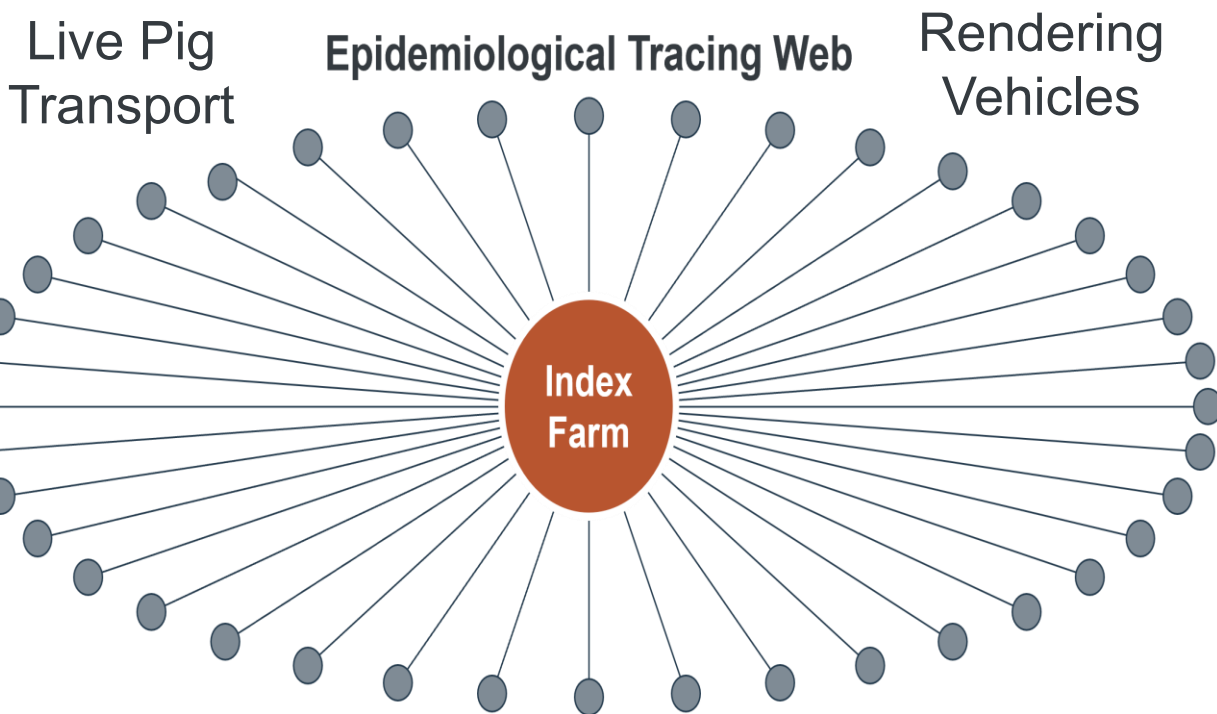
Nationwide Emergency Triggered

- National movement and slaughter ban initiated.
- Prohibition on swill feeding.

Phase 1: Emergency Response Measures

OCT 21 – OCT 27, 2025

GPS Tracing Objective: Identify all rendering and transport contacts linked to the index farm.



Result: All samples from 40 epidemiologically linked pig farms and rendering plants tested negative for ASFV by PCR.

Expert Committee (Oct 26)

Based on the 15-day ASF incubation period, the CEOC Expert Committee extended the national movement and slaughter ban to November 6.

Emergency Measures

Targeted Traceability & Testing	Conducted sampling across 40 epidemiologically linked pig farms and rendering plants, with 100% negative PCR results.
Enhanced Cleaning & Disinfection (C&D)	Escalated C&D protocols across all slaughterhouses and transport vehicles to eliminate residual viral contamination.
Nationwide Farm Audits	Implemented health evaluations and biosecurity assessments across pig farms nationwide.

Phase 2: Enhanced Prevention Measures (Active Management & Stratification)

OCT 27 – NOV 2, 2025

1

Risk Grading

National farms categorized by risk profile. Strict enforcement of daily reporting and enhanced dead-pig inspections.

2

Sanitation Intensity

Escalated Cleaning & Disinfection (C&D) audits implemented across all slaughterhouses, auction markets, pig farms and transport vehicles.

3

Precision Epi-Investigation

Local authorities, coordinated by the forward command post, conducted in-depth investigations at the outbreak and linked farms to clarify environmental risks.

4

Active Incentivization

Introduction of cash rewards for proactive reporting to incentivize pig farmers, aimed at detecting hidden or early-stage cases.



Phase 3: Enhanced Surveillance Measures (Maximum Intensity Operations)

NOV 2 – NOV 6, 2025

High-Risk Focus

Daily farm visits with mandatory dead-pig sampling.

Intensive Transport & Environmental Monitoring

Sampling of every rendering vehicle, environmental monitoring at rendering facilities, and 100% testing of dead pigs with suspected clinical signs.

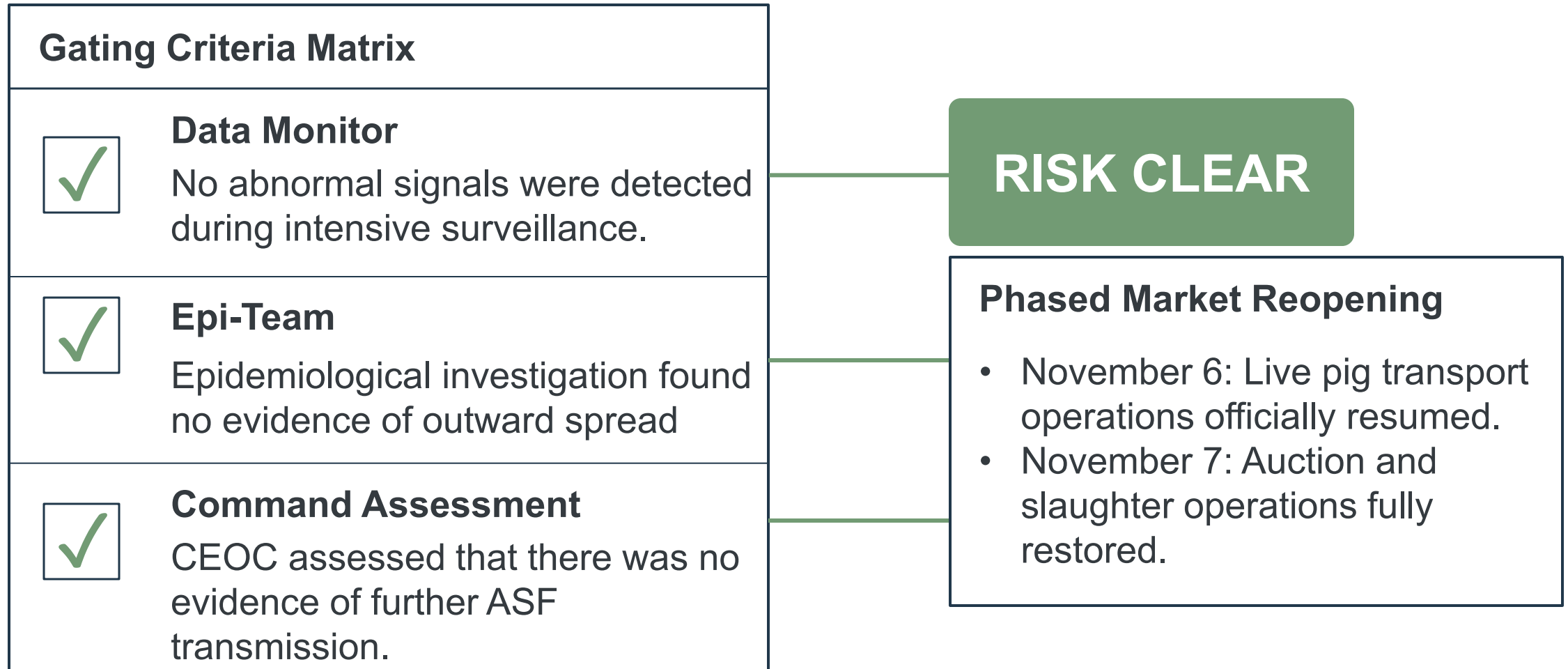
Wildlife & Smallholder Firewall

Specialized biosecurity audits targeting captive wild boar farms and smallholder operations (<19 pigs) to prevent spillover.

Reopening Preparation

On November 5, synchronized national C&D executed across all slaughterhouses, auction markets, transport vehicles, and retail pork stalls.

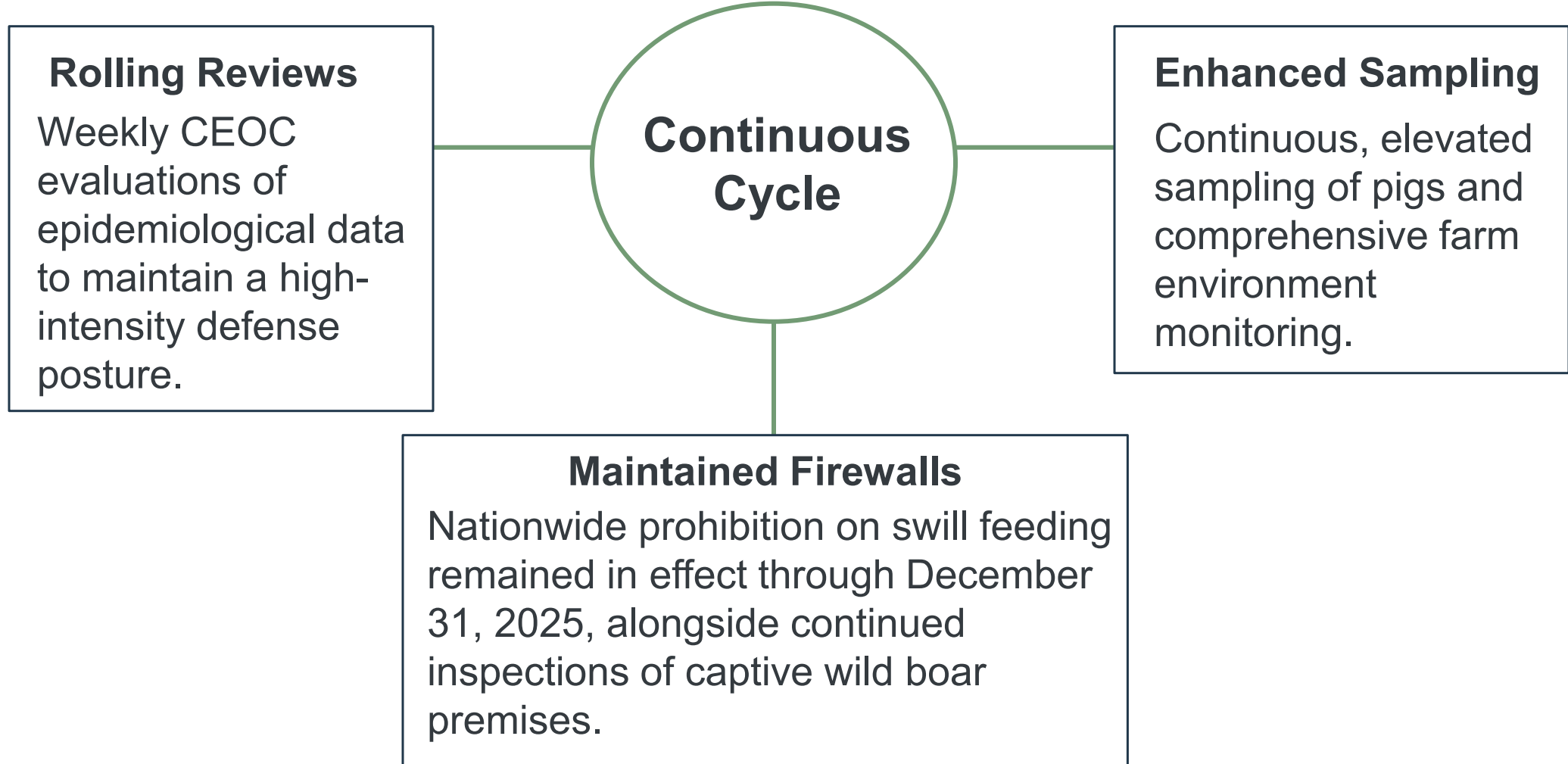
The Turning Point: Risk Clearance & Reopening





Phase 4: Overall Disease Prevention Measures after Lifting the Restrictions

NOV 6 – NOV 28, 2025





Phase 5: "Expanded comprehensive surveillance" to "Precision-enhanced surveillance".

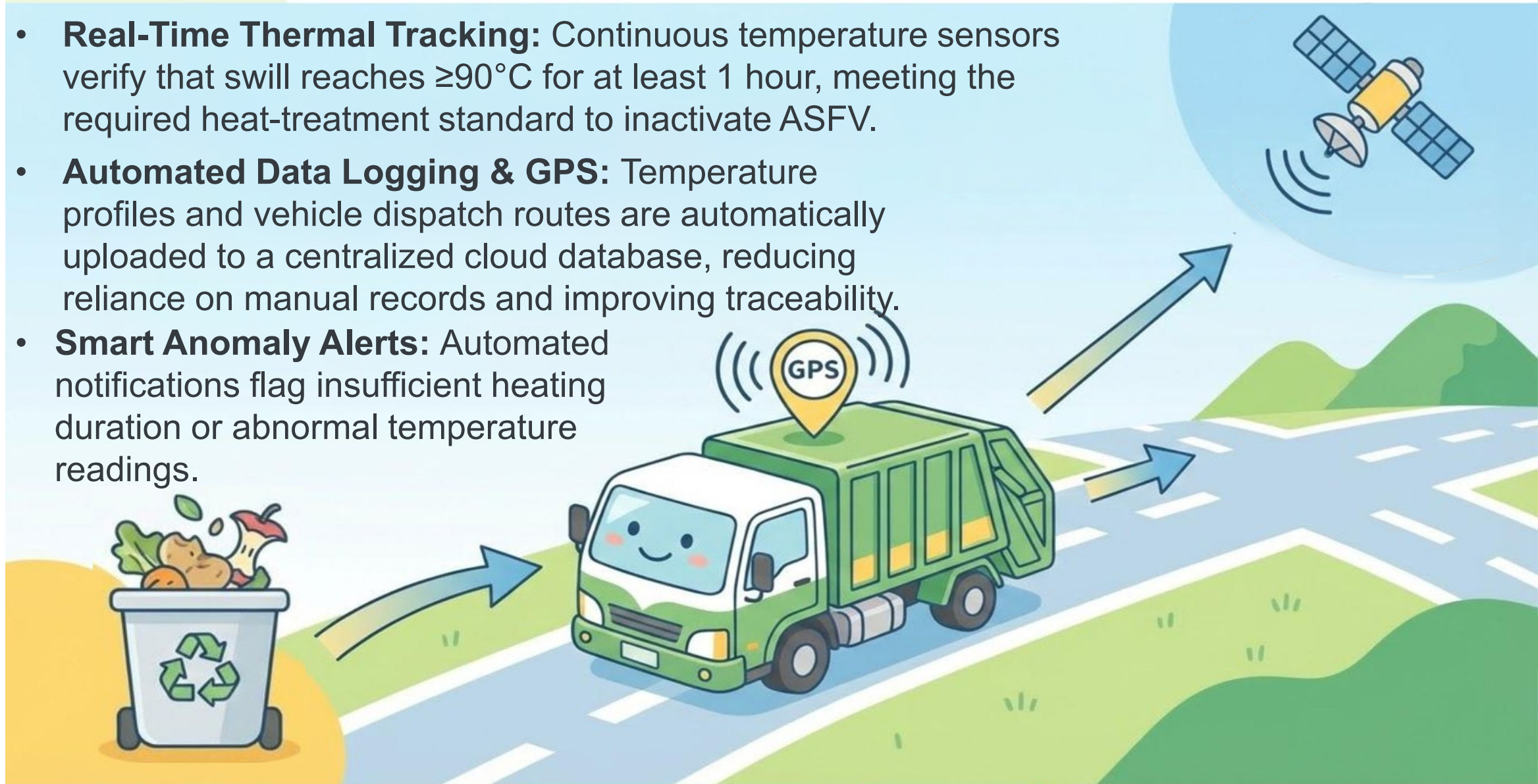
EFFECTIVE NOV 28, 2025 ONWARDS

Data Scale-Up	Rendering-plant dead-pig surveillance target increased from 600 to 1,200 in 2026.
Geofencing & GPS Integration	GPS alerts are triggered when a swill transport vehicle enters the geofence of a non-approved pig farm, prompting inspection by the local animal health authority.
Access Control	Promoting a QR-code real-name entry system for farm personnel.
Policy Deterrence	Significantly increased penalties for illegal swill feeding.
Phasing Out Swill Feeding	• Helping farms switch from swill to commercial feed via subsidies and technical guidance. • Upcycling food waste into safe, industrial-grade feed materials. • Nationwide Ban (Jan 1, 2027): Enforcing a complete prohibition on swill feeding to build a permanent biosecurity barrier.



Integrated AIoT & GPS Surveillance: Smart Swill Transport and Heat Treatment against ASF

- **Real-Time Thermal Tracking:** Continuous temperature sensors verify that swill reaches $\geq 90^{\circ}\text{C}$ for at least 1 hour, meeting the required heat-treatment standard to inactivate ASFV.
- **Automated Data Logging & GPS:** Temperature profiles and vehicle dispatch routes are automatically uploaded to a centralized cloud database, reducing reliance on manual records and improving traceability.
- **Smart Anomaly Alerts:** Automated notifications flag insufficient heating duration or abnormal temperature readings.



Core Objective : Leverage dead-pig rendering data as an automated early warning indicator to detect abnormal farm mortality and trigger swift, targeted biosecurity responses against major swine diseases.

Baseline Thresholds	Alert threshold for farms with 200–499 pigs: mortality $\geq 3\%$ $\rightarrow$ $\geq 2\%$
Automated Alert System	Triggers early notifications upon detecting unusual mortality peaks, enabling veterinary authorities to launch immediate site visits and containment measures.
Field Inspection	First-time alert triggers required on-site audit and diagnostic sampling to immediately rule out major swine diseases.
Benefits	• Early Detection : Immediate identification of potential disease outbreaks via real-time rendering metrics. • Targeted Response : Swift field deployment focused on high-risk farms.



ASF Central Emergency Operation Center (CEOC) Website



Website QR code



<https://asf.aphia.gov.tw/>

Note: You can use your browser's **translation feature** to read it in your preferred language.



! 最新消息

國內首例非洲豬瘟案例相關資訊	新聞	統計資料	公告	活動消息
◆ 114-11-06	1141106記者會			
◆ 114-11-05	1141105記者會			
◆ 114-11-04	1141104記者會			
◆ 114-11-03	1141103記者會			
◆ 114-11-02	1141102記者會			
◆ 114-11-01	1141101記者會			
◆ 114-10-31	1141031記者會			
◆ 114-10-30	1141030記者會			

More





Establishing a cross-ministerial framework to enforce zero-tolerance border policies



Centralized Command Center

- ASF Central Emergency Operation Center (CEOC) (Dec 2018).
- Coordinates cross-ministerial resources to secure all routes: baggage, parcels, cargo, waste, and coastlines.



Severe Deterrent Penalties

- Unlawful pork imports from ASF-affected countries face immediate fines:
 - 1st Offense: **NTD 200,000**
 - 2nd Offense: **NTD 1,000,000**
- Foreign nationals failing to pay are denied entry.



Tri-Agency Enforcement

- Strict collaboration across APHIA, Customs Administration, and Coast Guard.
- Blocks ASF, classical swine fever, and FMD at coastlines and ports.



Ubiquitous Public Outreach

- Extensive campaigns via digital displays, flight broadcasts, and social media.
- Distributed globally via ministries, local governments, and transport companies.



Deploying strict screening and prohibitions on individual entry routes



Individual Travelers

100% Baggage Screening

- **Action:** Mandatory X-ray inspection for all arrivals from high-risk countries.
- **Scope:** Covers both carry-on and checked luggage to prevent pathogen introduction.

Dedicated Screening Zones

- **Action:** Localized bottleneck established at Taoyuan International Airport.
- **Impact:** Heavily monitors high-risk flights without compromising overall airport passenger flow.



Postal & Courier Networks

Parcel Interdiction

- **Action:** High-intensity X-ray screening and active quarantine dog teams.
- **Impact:** Detects and prosecutes deliberate or negligent smuggling in international couriers.

Fine for Illegal Mail Items

- **Timeline:** Active since May 20, 2022.
- **Enforcement:** Zero pork products allowed from ASF areas.
- **Penalty:** Fines up to **NTD 1,000,000**.



Regulating maritime logistics while executing proactive pathogen surveillances

Physical Logistics & Control



Imported Sea Cargo Control

- **Protocol:** Rigorous APHIA/Customs on-site inspections requiring valid health certificates.
- **Penalty:** Unauthorized importation punishable by up to 7 years imprisonment and **NTD 3,000,000** fines.



Catering Waste Control

- **Flights:** Sealed transport and 100% complete incineration.
- **Maritime:** International cruise ships and docked vessels are strictly prohibited from unloading waste onto land.

Data-Driven Surveillance



Early-Warning System

- **Mechanism:** Continuous scientific testing of unlawfully imported, seized, or discarded pork products for the ASF virus.



Threat Assessment Mapping

- **11,233** samples tested (By August 31, 2026).
- **1,194** positive results traced directly to high-risk neighboring countries (Mainland China, Vietnam, Thailand, Malaysia).
- **Result:** Critical data foundation used to continuously assess risk and calibrate border defenses.



AI-assisted open-source scanning expanded early-warning reach

96

monitored websites

24/7

news extraction & updates

20+

source languages

2/day

scheduled intelligence emails

From labor-intensive manual information gathering to scalable Event-Based Surveillance (EBS)

- AI supports continuous source scanning, translation summaries and keyword triage.
- **Veterinary staff remain responsible for validation, interpretation and action.**
- Practical shift: people spend less time searching page by page, and more time judging whether a signal requires field verification or risk-management action.

Website categories covered by the watchlist

- IWOAH, and international organizations
- National animal-health, agriculture and food authorities
- Border, public-health and emergency sources
- Research and epidemic-intelligence networks
- Industry and professional animal-health media
- News agencies, forums and open-source reports

Operational value for animal health

- Broader multilingual coverage increases the chance of detecting weak signals before they appear as formal notifications.
- Keyword rules focus attention on ASF, CSF, FMD, HPAI, rabies, BSE, LSD and other priority animal diseases.
- Validated signals can feed early warning, expert consultation, border adjustment and public communication.

Open-source
information

AI extraction
& translation

Keyword triage

Human validation

Early-warning action

Human review is not replaced: it is shifted from manual collection to interpretation and decision support.



Submission of Application for Self-Declaration of ASF-Free Status

- | | |
|---|--|
| ● WOAH Terrestrial Code Compliance | The applicable requirements under Chapter 15.1 were met. |
| ● Eligibility Achieved | The last environmental samples from the outbreak farm tested negative on November 21, 2025. After three consecutive months of surveillance with no evidence of ASFV circulation, the conditions for self-declaration were met. |
| ● Self-Declaration Submitted | Submitted to WOAH on February 21, 2026. |
| ● Self-Declaration Published | Published by WOAH on April 6, 2026. |

What Worked Well

- Command & Speed** The ASF Central Emergency Operation Center (CEOC) enabled unified cross-ministerial decision-making and rapid resource deployment
- Smart Surveillance** AIoT, GPS, and rendering-data early-warning alerts
- Swill Phaseout** Accelerating the total transition away from swill feeding in swine farms to reduce a major risk pathway for virus introduction.
- Escalated Sanitation** Mandating strict, standardized cleaning and disinfection (C&D) protocols for all livestock transport vehicles and related equipment.
- Capacity Building & Stakeholder Engagement**
 - National Drills: Conducting regular nationwide simulation exercises to keep central and local authorities in a high-alert, rapid-response state of readiness.
 - Continuous Training: Providing routine education and outreach for industry personnel and field veterinarians to maintain a high level of biosecurity awareness.
- Border Control** Strict 100% screening of high-risk border pathways.

What We Strengthened

- Alert-to-Action** Early-warning thresholds were linked more directly to mandatory field verification and diagnostic sampling.
- Field Verification** On-site veterinary assessment was reinforced when abnormal mortality exceeded predefined thresholds; remote or owner-reported information alone was not sufficient.
- Swill Risk Control** Swill management shifted toward AIoT temperature monitoring, GPS traceability and a progressive phaseout of swill feeding to reduce a major biosecurity risk pathway.
- Integrated Epidemic Intelligence** Mortality, rendering, swill-treatment, movement and field information were connected more closely to identify weak signals earlier.

Strong preparedness turns early signals into timely, coordinated action.

Thank you for your attention.



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