Member experience on prevention and control for Vector Borne Disease [Thailand]

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World Organisation for Animal Health
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Vector Borne Disease situations in Thailand

outbreaks of two diseases

Lumpy Skin Disease

The first outbreak was in March 2021
In 2023, the **14 outbreaks** occurred in Central, Northern, and Nort Eastern Thailand.
In 2024, LSD is under control through vaccination.

Potential source of outbreak:

- live cattle/animal market
- Insect vector
- Animal movement

African Horse Sickness

The first outbreak was on March 27, 2020.
Thailand could eradicate AHSV and declared **AHS-free country** in 2023.

- First case in Pakchong district, Nakorn Ratchasima province
- Potential source of outbreak: imported zebras during 2019-2020 could be suspected
- Disease spread illegal animal movement : feed/hay truck movement

Both diseases have significantly impacted cattle and horse farmers in Thailand

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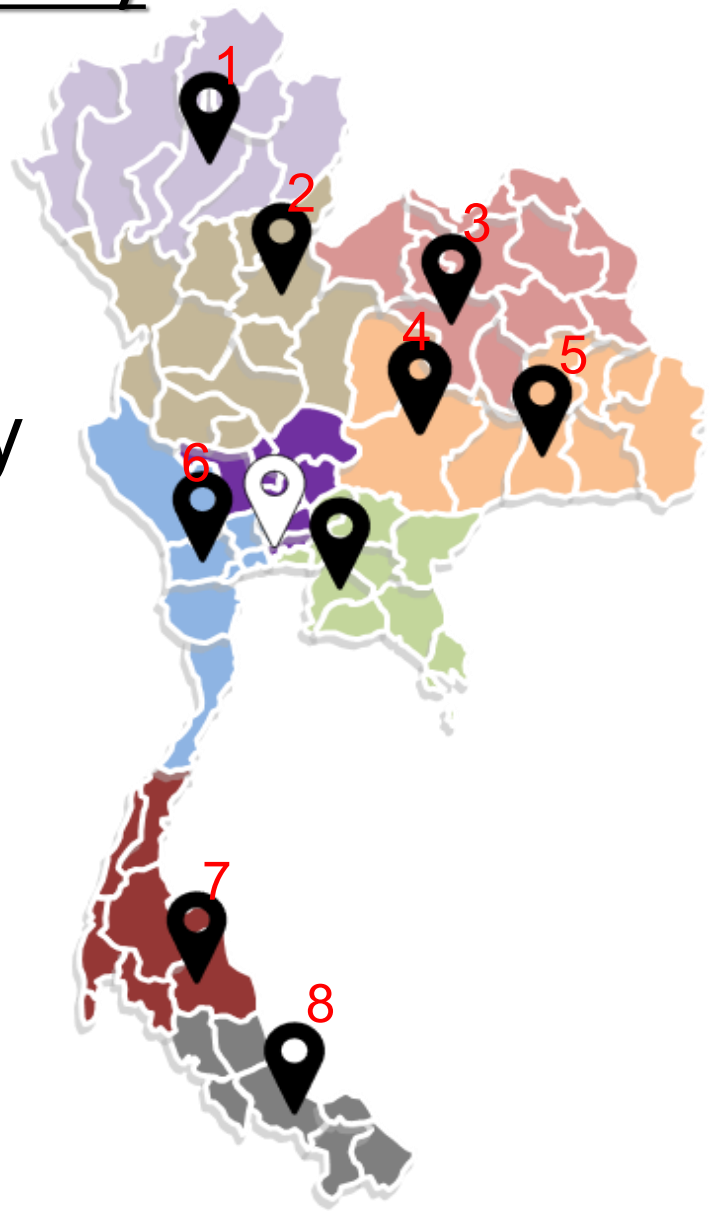
Detection capacity

DLD Veterinary Laboratory network

VRDC & NIAH

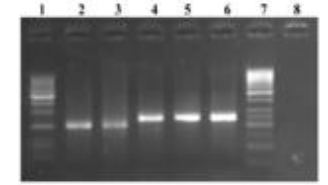


1. Veterinary Research and Development Center Upper Northern Region
2. Veterinary Research and Development Center Lower Northern Region
3. Veterinary Research and Development Center Upper Northeastern Region
4. Veterinary Research and Development Center Lower Northeastern Region
5. Veterinary Research and Development Center Eastern Region
6. Veterinary Research and Development Center Western Region
7. Veterinary Research and Development Center Upper Southern Region
8. Veterinary Research and Development Center Lower Southern Region

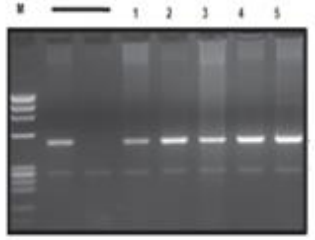
National Institute of Animal Health

Detection capacity

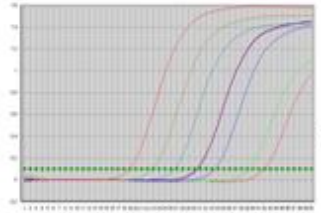
Disease covered	Type(s) of diagnostic tests
African Horse Sickness (AHS)	Real-time RT-PCR
	ELISA (commercial kit)
	Virus Isolation & Sequencing
Lumpy Skin Disease (LSD)	Real-time PCR
	ELISA (commercial kit)
	Virus Isolation & Sequencing
West Nile virus	RT-PCR & Sequencing
Japanese encephalitis virus	RT-PCR & Sequencing
Yellow fever (Flavivirus)	RT-PCR & Sequencing



PCR/RT-PCR



Nested-PCR/
Nested-RT PCR



Real-time PCR/
Real-time RT-PCR

Genome
sequencing

Response to Vector Borne Diseases

Key activities undertaken

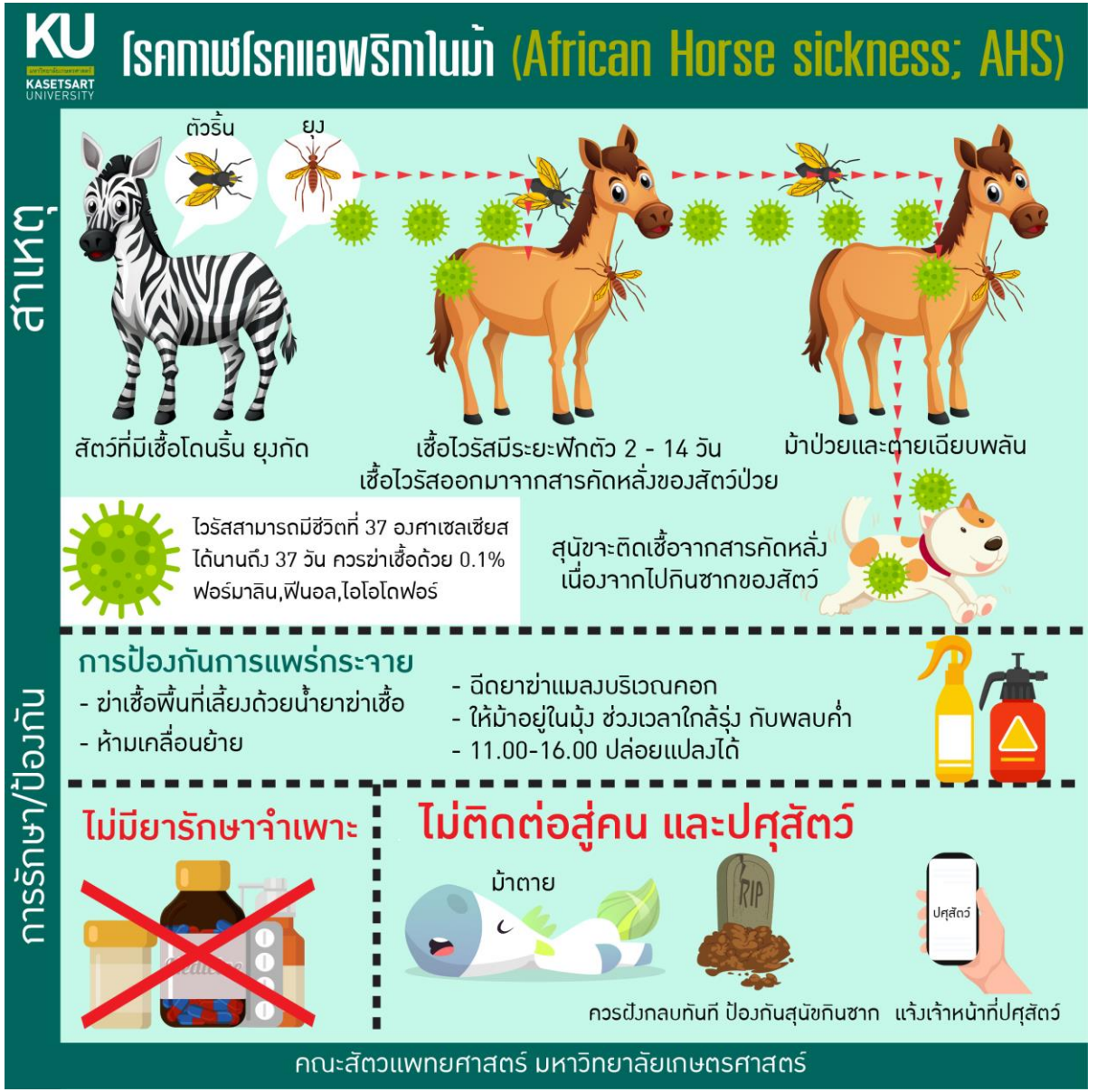
- Surveillance:
  - active (clinical) animal surveillance and vector surveillance
- Vaccination
- Movement control
- Vector control

Recent outbreak in Thailand – serotype 1 had caused the outbreak; the first time that this serotype has been outside of Africa. First that south-east Asia has ever experienced.

Thai Livestock Department can control African Horse Sickness outbreak

By **Pattaya Mail** May 30, 2020

The Livestock Development Department gave 8,000-dose vaccination for horses in a radius of 50 kilometers from outbreak epicenters in the 12 provinces and 7 adjacent provinces.



Horse kept in net after being vaccinated in Thailand

Response to Vector Borne Diseases

Vector surveillance for AHS in 2020

- Vector surveillance had been conducted at the high risk area located at central region of Thailand where the outbreak of African horse sickness (AHS) was occurred
- Three horse farms in each three districts were chosen for vector surveillance (totally 9 horse farms)
- Three to five light trap-UV fluorescence were placed in each farm from dusk to dawn
- Two major species of *Culicoides* found in horse farms were *C. oxystoma* and *C. imicola*
- DNA of AHSV was not found in *Culicoides* sample collected from each farm by real-time PCR

Impact of the actions

Home › Activity › OIE (World Organisation for Animal Health) has announced Thailand's reinstatement of status...

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OIE (World Organisation for Animal Health) has announced Thailand's reinstatement of status to a member recognised as free from AHS (African horse sickness)

April 17, 2023

The Scientific Commission for Animal Diseases considered the application of Thailand in accordance with Resolution No. 15 of the 2020 Adapted Procedure and concluded that Thailand fulfills the requirements of Article 12.1.5. of the Terrestrial Code for recovery of its previous "AHS-free country" status with effect from 10 March 2023.

List of AHS free Members

According to **Resolution No. 16** (89th General Session, May 2022)

Members recognised as **free from AHS** according to the provisions of Chapter 12.1. of the *Terrestrial Code* :

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Challenges with implementing diagnostic tests and disease surveillance

Inadequate of Expertise in Vaccine Development and EIDs Diagnosis

- Insufficient specialized training
- Inadequate investment & skilled researchers
- Gaps in updates on advanced diagnostics

Budget Constraints and **Sustainability** Issues

- Insufficient procurement of essential diagnostic equipment and materials
- Disruption of surveillance system sustainability
- Impact on the training and experts' retention

Impact of **Staff Turnover** on Diagnostic Capacity

- Disruption in diagnostic continuity
- Loss of institutional knowledge
- Need for ongoing training and maintenance of diagnostic standards

Collaboration with other sectors under One Health approach

- Key to success
- Multisectoral collaboration
  - Academic
  - Private sector
  - Other government agencies: DNP

Challenge and possible solutions to strengthen the collaboration

Challenges to strengthen the collaboration with other sectors

- There is still a lack of activities to continuously foster concrete collaboration across all sectors
- The budget is limited.

Actions/ideas to overcome these challenges

- Organize meetings and continuous training for responsible parties and stakeholders to ensure preparedness and to strengthen relationships between agencies

Thank you

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