World Organisation for Animal Health

中国动物疫病预防控制中心
China Animal Disease Control Center

Member's experience on swine-infected disease diagnosis:

CSF in Thailand

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The Sixth WOAH Regional Training on Swine Disease Control in Asia and the Pacific
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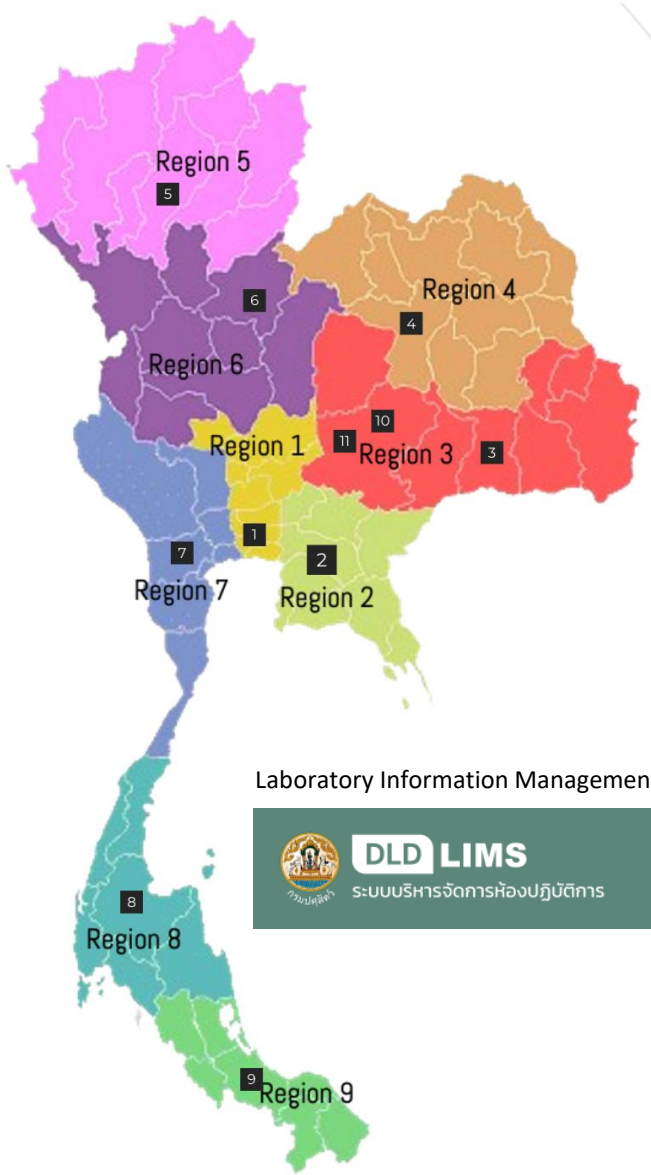
Member's profile on swine-infected disease diagnosis capacity



Laboratory Information Management System

DLD LIMS
ระบบบริหารจัดการห้องปฏิบัติการ

DLD LABORATORY NETWORK

1

NIAH (Bangkok)

National Institute of Animal Health

2

VRDC-Eastern (Chonburi)
Veterinary Research and Development Center, Eastern Region

3 VRDC-Lower Northeastern Region (Surin)
4 VRDC-Upper Northeastern Region (Khonkaen)
5 VRDC-Upper Northern Region (Lampang)
6 VRDC-Lower Northern Region (Pitsanulok)
7 VRDC-Western Region (Ratchaburi)
8 VRDC-Upper Southern Region (Nakhonsrithammarat)
9 VRDC-Lower Southern Region (Songkhla)
10 SEA FMD Regional Reference Laboratory
11 Veterinary Biologics Assay and research Center (VBAC)

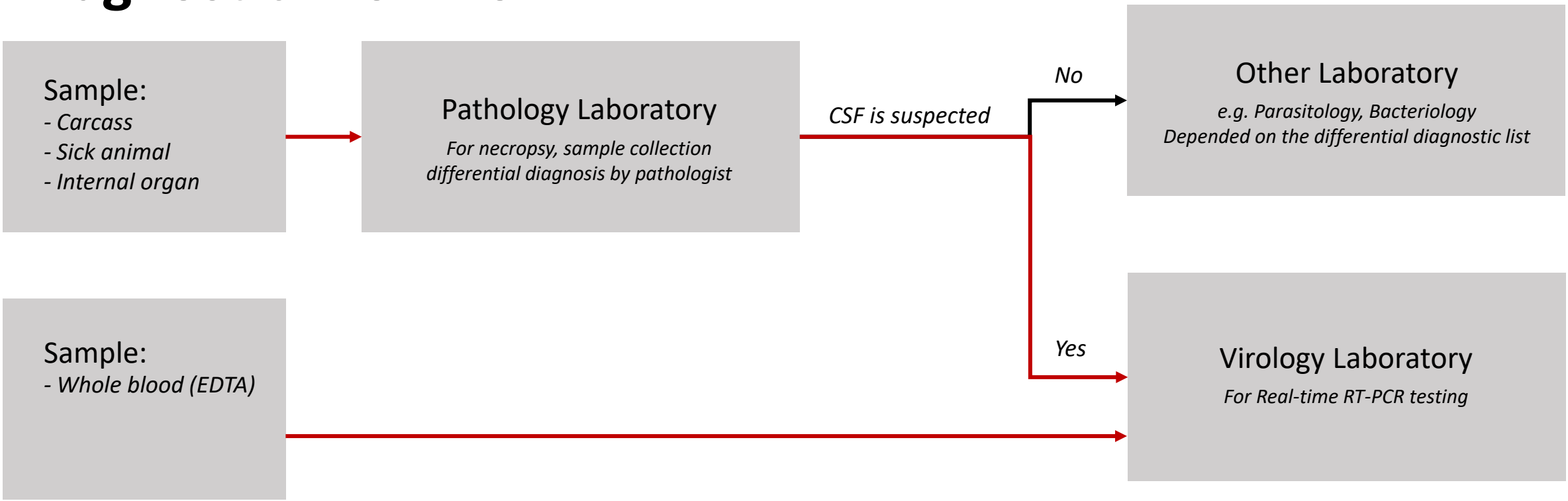
CAPABILITY of AUTHORITY LABORATORIES

For important swine disease diagnosis

Name of laboratory	ASFV	CSFV	PRRSV	PEDV	TGEV	PCV	FMDV	Nipah virus	ADV	Swine Pox	SVD	Rabies	Salmonellosis	Trichinellosis	Anthrax	Brucellosis	Leptospirosis	*Streptococcus Suis*	Porcine Cyticerosis
NIAH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VRDC-UNR	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
VRDC-LNR	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
VRDC-UNE	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
VRDC-LNE	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓
VRDC-ER	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓		✓	✓
VRDC-WR	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
VRDC-USR	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
VRDC-LSR	✓	✓	✓			✓	✓	✓	✓			✓	✓	✓		✓		✓	✓
RRL							✓												

CSF diagnosis

Diagnostic Workflow



CSF diagnosis

Real-time RT-PCR

- WOAH recommended method
- Purpose
  - Diagnosis clinical cases
  - Testing for freedom farm or compartment
- Sample = Whole blood and internal organs
- Primer-probe followed Hoffmann *et al*., 2005
- Same protocol through the DLD Lab network
- NIAH passed the proficiency test (PT) provided by the Australian Centre for Disease Preparedness (ACDP)

Method	Purpose					
	Population freedom from infection[(b) (c) (e) (f)]	Individual animal freedom from infection prior to movement[(a) (b) (c) (e) (f)]	Contribute to eradication policies[(c) (d) (e) (f)]	Confirmation of clinical cases[(a) (b) (c) (d) (f)]	Prevalence of infection – surveillance[(b) (e) (f)]	Immune status in individual animals or populations post-vaccination[(e) (f)]
Detection of the agent[(g)]						
Virus isolation	□□□	☑□□	□□□	☑☑☑	□□□	□□□
RT-PCR	☑□□	☑☑☑	☑☑□	☑☑☑	☑☑□	□□□
ELISA (antigen)	☑☑□	☑□□	☑□□	☑□□	□□□	□□□
FAT	□□□	□□□	☑□□	☑□□	□□□	□□□
Detection of immune response						
ELISA (antibody)	☑☑☑	☑☑□	☑☑☑	□□□	☑☑☑	☑☑☑
VN (FAVN or NPLA)	☑□□	☑☑☑[(h)]	☑☑□	☑☑□	☑☑☑	☑☑☑

Challenge and solution

- CSF is one of the important diseases under the Thailand Animal Epidemic Act.
- Disease prevention and control by vaccination
- 2 Types of surveillance of CSF

Passive Surveillance

- To detect a clinical case
- Clinically inapparent infections
- Persistent and chronic infections
- Difficult for clinical detection and disease notify to the authority veterinarian

Active Surveillance

- To declaration CSF-free farm or compartment
- Sampling blood samples 2 times per year
- Serological surveillance (e.g. ELISA) is hard to perform due to the distinguish of vaccination and natural infection sero-positive

what can WOAH do to support?

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Thank you!

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