



World Organisation
for Animal Health
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Report PT Regional Scheme Protocol for sample submission

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❖ Aim of PTs

❖ **Proficiency testing** : The objectives of the proficiency testing program were evaluated the performance of individual laboratory staff to ensure that they have competence in the assay performance on FMD diagnosis. Participation in proficiency testing program is an essential requirement of the ISO/IEC 17025:2017 standard for laboratory testing and veterinary testing laboratories applying for accreditation or upgrading approved tests.

- ✓ Monitoring overall quality of testing
- ✓ Ensuring accurate, reliable and prompt reporting of results
- ✓ Assuring staff competence
- ✓ Identifying and resolving problems
- ✓ Monitoring and evaluating Proficiency Testing and other
- ✓ QC data



❖ Design of PTs exercises

□ Proficiency testing (PTs) program for antigen detection of foot and mouth disease diagnosis that is detected serotyping of FMDV by antigen capture ELISA and RT-qPCR (pan-serotype) technique.

✓ *Panel 1: Virus detection*

✓ *ELISA Typing*

✓ *Real Time PCR*

✓ *Panel 2: Serological testing*

✓ *LPB ELISA*

✓ *NSP Test*

❖ PT Panels

Panel 1: Virus detection

- *Non-infectious (5 x 3 ml) (delete as appropriate) material originating from cattle (Foot and Mouth Disease): 5 samples in this panel*
- *Please note: Panel 1 will contain “non-infectious” material.*

Panel 2: Serological testing

- *Non-infectious (5 x 1ml) foot-and-mouth disease material originating from cattle: 5 samples in this panel*

Table 2 Information of PT samples for antibody detection by LP ELISA and NSPs (Non Structure Protein Test)

No.	Name/Details
1	Challenge after vaccinated trivalent vaccine (O189, A/Lopburi , Asia 1) 21 days, collected serum 8 days post challenge FMDV type A/Lopburi
2	Vaccinated trivalent vaccine (O189, A/Lopburi, Asia 1) lot T62E double dose (Day 0 and Day 14), collected serum 45 days after first vaccination
3	Newborn calf serum Lot no: CP17-1691 Exp.:04/2022
4	Challenge after vaccinated trivalent vaccine (O189, A/ Lopburi , Asia 1) 21 days, collected serum 8 days post challenge FMDV type A/Lopburi
5	Vaccinated trivalent vaccine (O189, A/Lopburi, Asia 1) lot T62F double dose (Day 0 and Day 14), collected serum 45 days after first vaccination

Remark: All of the samples has inactivated 56 °c and confirmed by the PCR technique before distribution.

Table 3 Information of PT samples for antigen capture by ELISA Typing Test and RT-PCR/Real time RT-qPCR technique

PT sample	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
Detail	Inactivated FMDV serotype A (High OD)	Inactivated FMDV serotype A (Low OD)	Inactivated FMDV serotype Asia1 (High OD)	Inactivated FMDV serotype Asia1 (Low OD)	Inactivated FMDV serotype O	PBS
PT result for ELISA Typing	A (Strong)	A (Weak)	Asia1 (Strong)	Asia1 (Weak)	O	NVD
PT result for PCR	Positive	Positive	Positive	Positive	Positive	Negative

Remark: All of the samples have checked inactivation by Virus Isolation before distribution.

❖ PTs Panel Preparation and Composition

- ✓ Following ISO 17043 principle: *ISO 17043* is an international standard that specifies the general requirements for *Proficiency Testing Providers*.

Aliquot in distribution volume and store

Homogeneity:
Repeatability

Stability and
suitable

2 main sources of variability in the results for PT

- variation between laboratory – z score
- variation within laboratory – z score

❖ Participants in 2021-2022

Name/Institute	PCR	Typing	LP-ELISA	
National Institute of Animal Health (NIAH), Bangkok, Thailand*2	◇	◇	◇	◇
Regional Veterinary Research and Development Center, Southern part (Nakornsrihammarat), Thailand*2	-	-	◇	◇
Regional Veterinary Research and Development, Upper Northern part (Lumpang), Thailand*2	◇	◇	◇	◇
Regional Veterinary Research and Development Center, Western part (Cholburi), Thailand*2	◇	-	◇	◇
Regional Reference Laboratory for FMD in South East Asia (RRL), Pakchong, Thailand*2	◇	◇	◇	◇
Regional Veterinary Research and Development Center, Lower Northern part (Phisanuloke), Thailand*2	◇	◇	◇	◇
Regional Veterinary Research and Development Center, Western part (Ratchaburi), Thailand*2	-	-	◇	◇
Regional Veterinary Research and Development Center, Upper North Eastern part (Khonkhean), Thailand*2	◇	◇	◇	◇
Regional Veterinary Research and Development Center, Lower Southern part (Songkla), Thailand*2	-	-	◇	◇

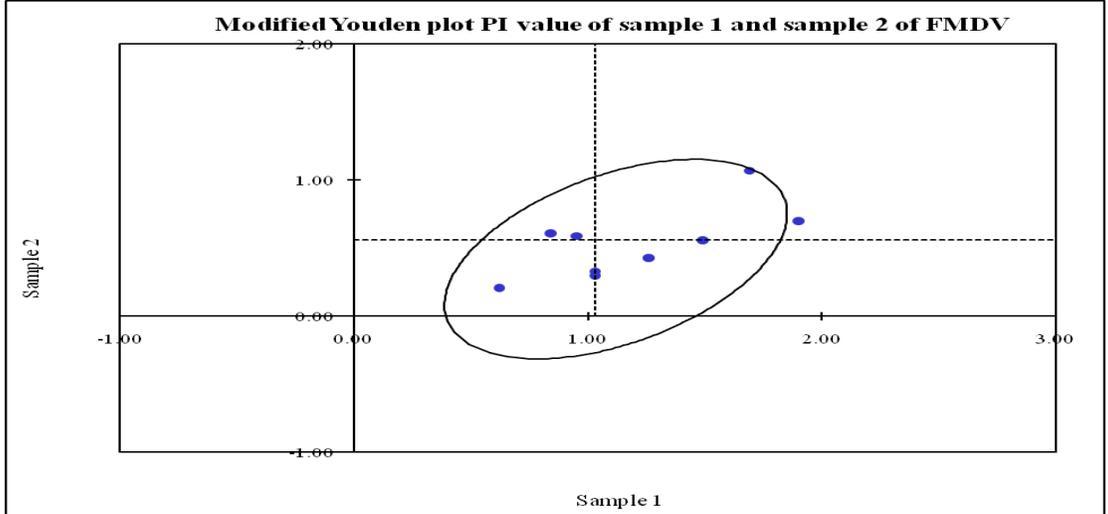
Malaysia laboratory had purposed for ISO 17025 Activity

❖ Report PT Regional Scheme

10 x testing/Positive 10 x testing/Negative

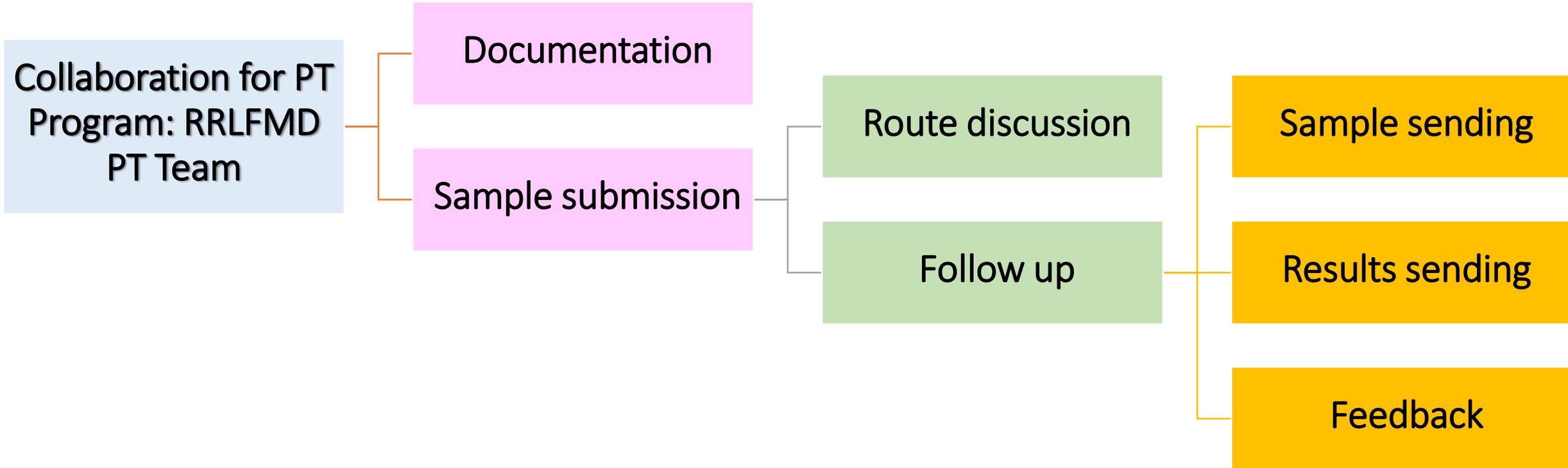
Laboratory Positive	Agreement	No Agreement
Laboratory Negative	No Agreement	Agreement

- ✓ 2020-2021; Regional laboratories in THAILAND
 - ✓ Verify the control serum
 - ✓ PTs Preparation
 - ✓ PTs Program running
 - ✓ Feedback response
- ✓ 2022-2023; Regional laboratories in THAILAND and Malaysia
 - ✓ National Laboratory: finished testing
 - ✓ Malaysia: On going



❖ FUTUR PLAN for 2023 -2024

❖ Invitation letter : ~ May – June 2024



❖ Protocol for sample submission

Process of preparation



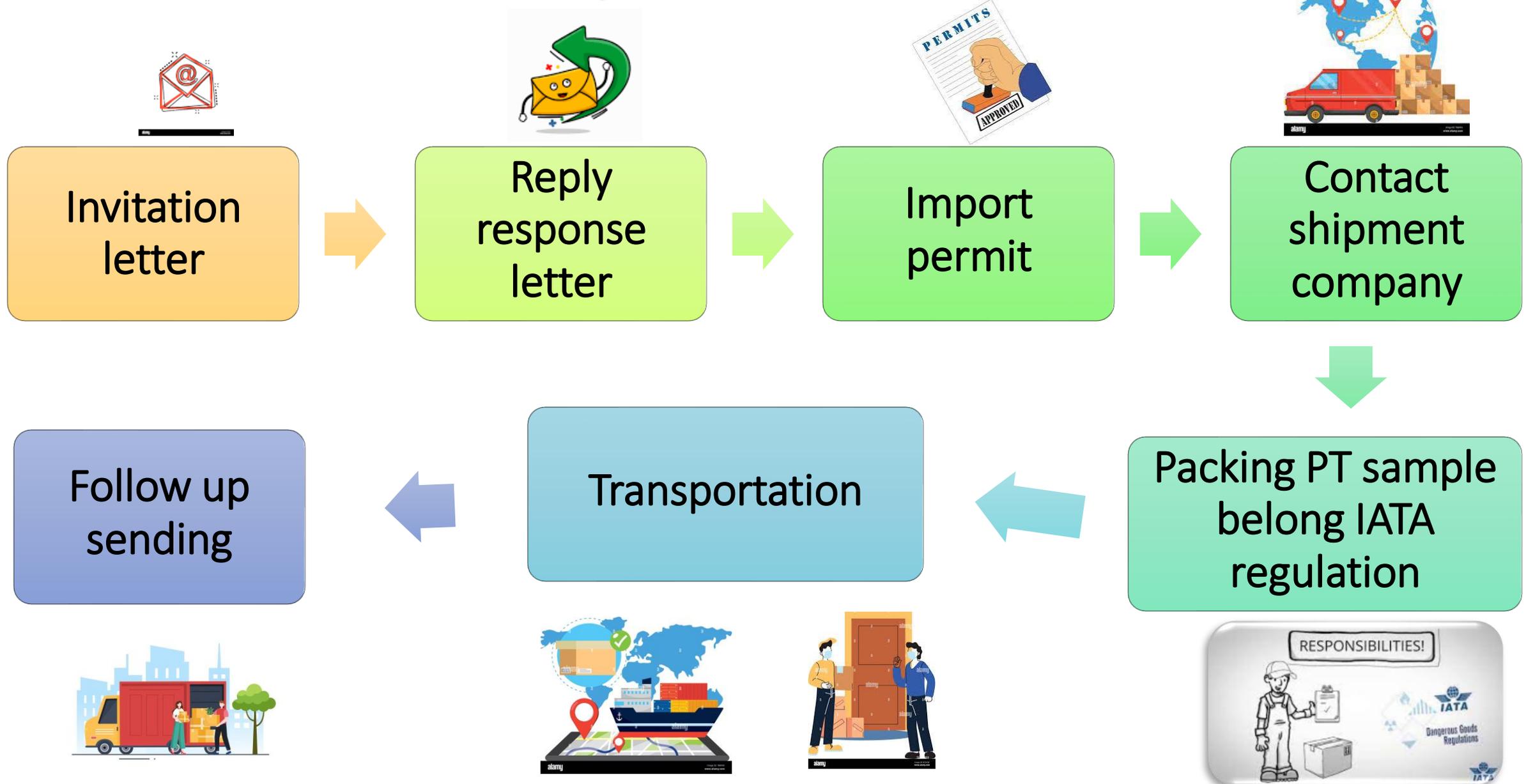
- Documentation
- PTs Sample

How to submission?



- Air fright
Bordering country; eg.
LAO PDR, Malaysia,
Cambodia.

❖ Flowchart of PTs panel submission





Thank you for your attention