



Pre-Meeting of the 26th OIE Sub-Commission for Foot and Mouth Disease in South-East Asia, China and Mongolia

Progress update activity RRLFMD-Pakchong

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Main Activities in 2021

Diagnostic

- Antigen detection
- Antibody detection
- Strain characterization
- Reagent production



QA



- RRL has accredited by ISO/IEC 17025:2017
 - Antigen typing test by ELISA technique
 - Antibody measurement by LP ELISA
 - 3ABC Non structural protein (NS) test
- Proficiency testing Provider for National lab
- Participating FMD PT Program organized by WRL
- Refresh Training for national lab

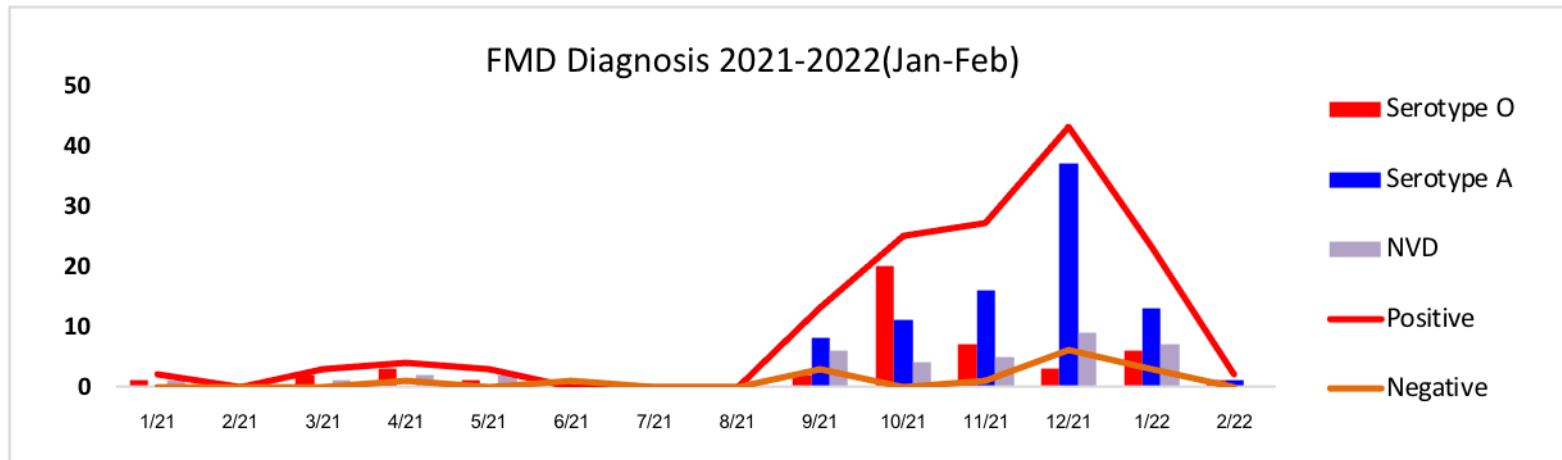


Laboratory Improvement

- Renovation
- HR
- Research working and Collaboration



❖ Summary of samples tested during 2021-2022



2021/ Serotype O

- In 2021, FMD viruses serotype O and A in Thailand.
- For FMD viruses serotype O, was **O/Ind2001e/ME-SA**, and It is similar to the previous FMD viruses outbreak.

2022/ Serotype O

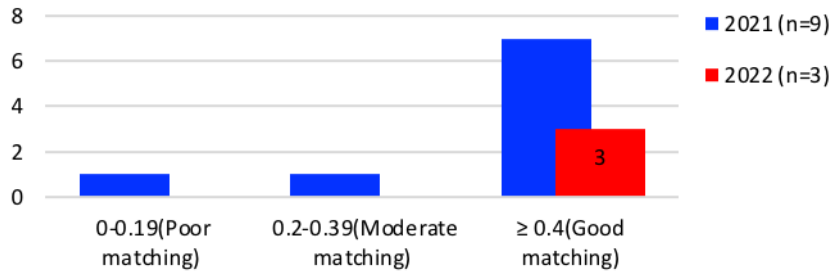
- In 2022, RRL received samples from Thailand. For FMD viruses serotype O, was **O/Ind2001e/ME-SA**, and It is similar to the previous FMD viruses outbreak.

2022/ Serotype A

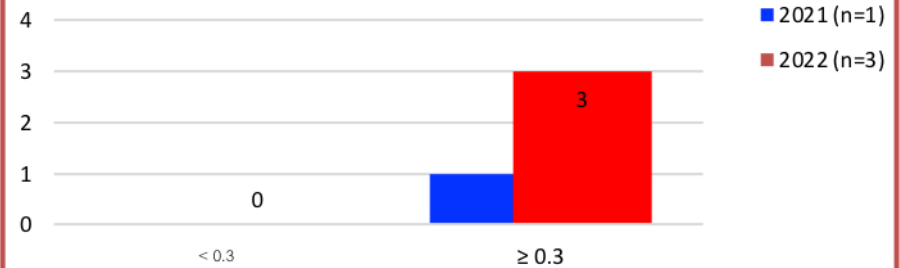
- In the case of serotype A, were lineage **A/Sea-97/ASIA** that was similar to the isolated samples in 2019.

❖ Vaccine matching

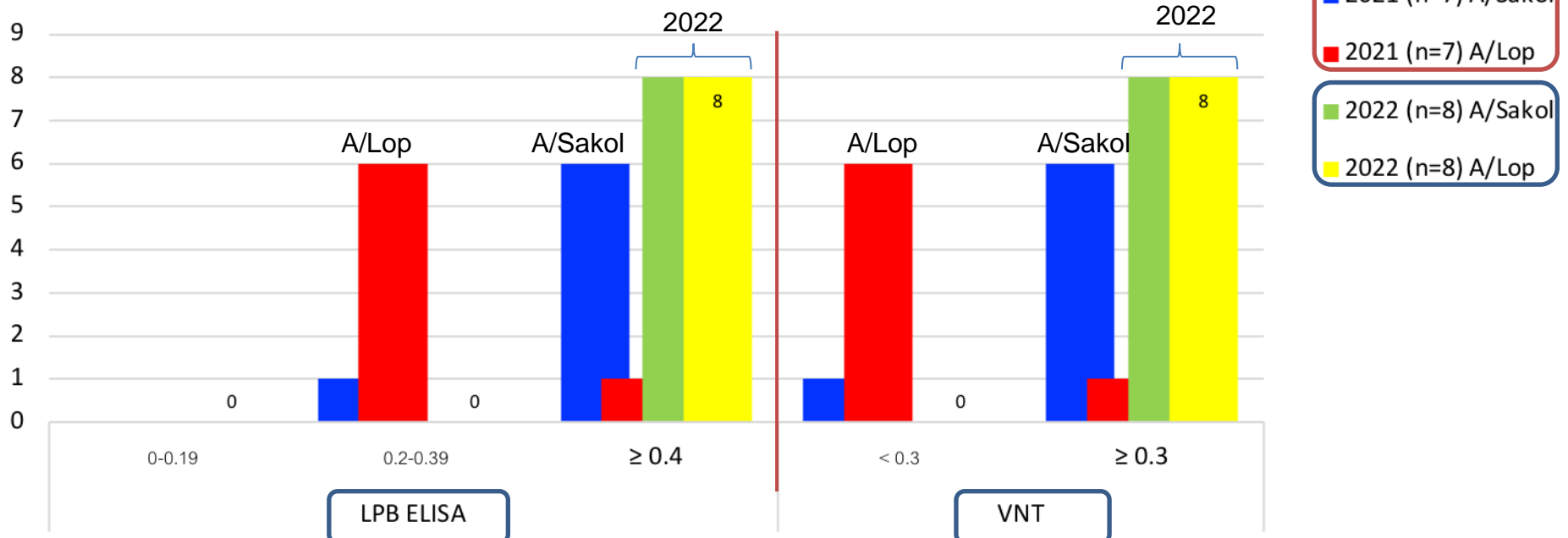
Vaccine Matching by LPB ELISA; Serotype O
O/189 (Thai Vaccine)



Vaccine Matching by VNT; Serotype O
O/189 (Thai Vaccine)



Vaccine Matching; Serotype A/Sakol & A/Lop (Thai Vaccine)



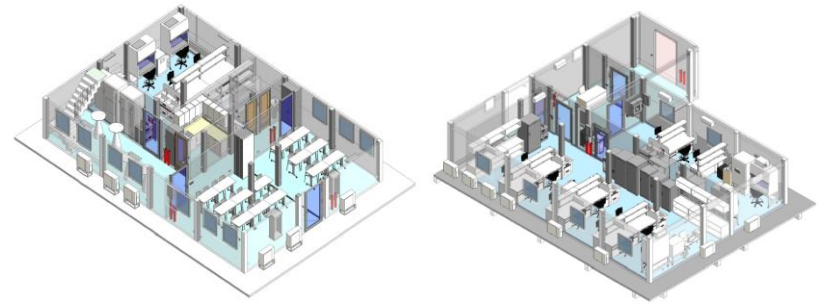
❖ Activity in RRLFMD

- RRL-Renovation Project: DTRA & MORU

- Phase 1: Training building Center (BSL2+) will be a temporary lab for RRL; **Finished status**



❖ Activity in RRLFMD (Cont.)



- **RRL-Renovation Project:**

- Phase 2: BSL3 facility building, will be finished in 2024;
Ongoing status.



❖ Activity in RRLFMD (Cont.)

- Differential diagnosis systems of foot-and-mouth disease (FMD) and similar vesicular diseases; Immunochromatography test kits research work that collaboration with **SATREPS Project** (JICA) (2021-2024)



- Miyazaki University April 2020 to March 2025
 - Pen site kit for FMD diagnosis
 - Differentiated for Vesicular disease diagnosis(Collaboration with NIAH)

❖ Activity in RRLFMD (Cont.)

- ✓ Reference control serum for in-house reagent preparation plan (2022)
 - ✓ FMD vaccine production (Animal facility) : Finished preparation
 - ✓ WRLFMD (Future plan: Support and recommendation-> Submit to WRL for evaluation testing)
- ✓ Comparison of sensitivity and specificity in six commercial Foot and Mouth Disease Virus non-structural protein ELISA kits in Thailand (Ongoing conclusion)
- ✓ Serological response after the foot-and-mouth disease vaccination of goats in the field and experimental laboratory animals (Ongoing process)
- ✓ Antigenicity comparison of FMD serotype O vaccine strain against foot-and-mouth disease virus from the O/ME-SA/Ind2001 lineage circulating viruses in Thailand (Ongoing conclusion)
- ✓ Establishment of Monoclonal antibody for FMDV for reagent development (Ongoing process)
- ✓ Collaboration with MORU to develop C-ELISA (Ongoing preparation process)

What we will do in “FUTURE” ?

- ✓ Collaboration NIAH Japan: Scientific meeting and research collaboration
- ✓ Collaboration research with Japan (SATREPS PROJECT)
- ✓ Collaboration research with WRL-OIE to support and improve technical in RRL
- ✓ Collaboration research proposed with ACDP(Australian Centre for Disease Preparedness, Australia: Related with Covid-19 situation; such as
 - ✓ **Project Proposal 3** for FMDV molecular epidemiology studies and development of a serotyping real-time PCR tailor-made for viruses circulating in South East Asia
 - ✓ **Project proposal 4** for the use of Next Generation Sequencing to sequence full genomes of FMDV from South East Asia

FUTURE ACTIVITIES (Cont.)

- ✓ Collaboration; Prevalence Wildlife: Department of National Parks, Wildlife and Plant Conservation and University (Ongoing process)
- ✓ Collaboration; Risk assessment of FMD in Dairy (University; Ongoing process)
- ✓ Diagnosis collaboration; Sample submission; At the border of Thailand to RRL-FMD

THANK YOU FOR YOUR ATTENTION