WOAH Reference Laboratory annual reports (RINDERPEST)

Activities in 2025

Name (including Title) of Head of Laboratory (Responsible Official):	Dr. Ken KATSUDA, Director of the National Institute of Animal Health (NIAH), National Agriculture and Food Research Organization (NARO)
Name (including Title and Position) of WOAH Reference Expert:	Dr. Takehiro KOKUHO, Senior Executive Research Scientist
Email address:	kokuho.takehiro756@naro.go.jp
Address of laboratory:	6-20-1 Josuihoncho, Kodaira, Tokyo, 187-0022 JAPAN
Website:	https://www.naro.go.jp/english/laboratory/niah/index.html
Telephone:	+81 42 321 1466

A: Maintaining Scientific and Technical Skills

1. Did your laboratory perform relevant diagnostic tests for purposes such as disease diagnosis, screening of animals for export, surveillance, etc. (not for quality control, pro▪ciency testing or sta▪ training)

   a. For the specified disease?
   No
   b. For closely related diseases or pathogens?

   No

Disease	Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of tests performed last year	
			Nationally	Internationally

2. Did your laboratory produce, supply, or import standard reference reagents officially recognised by WOAH for the specified disease or for closely related diseases?

   No

Type of Reagent Available	Related diagnostic test	Produced/Supplied/Imported	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	Name of recipient WOAH Members

3. Did your laboratory supply, exchange or receive standard reference reagents or other diagnostic reagents for the specified disease

   Yes

Type of reagent	Related diagnostic test	Supplied by your lab, exchanged or received	Amount	Name of recipient or supplier Member
LA-AKO strain vaccinated bovine sera (paired, non-infectious)	RP competitive serological ELISA	Supplied	0.5 ML x 12	Dr. Carrie Batten, The Pirbright Institute, UK

4. Did your laboratory provide expert advice in technical consultancies on the request of a WOAH Member for the specified disease or for closely related diseases?

No

Name of the WOAH Member receiving the technical consultancy	Purpose	How the advice was provided

5. What method of dissemination of information is most often used by your laboratory? (please provide information on activities for other diseases relevant to maintaining capability for specified disease) [a: Articles published in peer-reviewed journals; b: International conferences; c: National conferences; d: Other]

a: Articles published in peer-reviewed journals;

b: International conferences;

c: National conferences;

d: Other;

1 University Student Seminar Series on Animal Disease and Vaccine Development at the National Pingtung University of Science and Technology

2 Articles for the Journal of the Japan Veterinary Medical Association (in press)

6. Did your laboratory provide scienti▪c and technical training to laboratory personnel from other WOAH Members?

☐ Yes

7. Did your laboratory implement activities to ensure ongoing capability for the designated disease or closely related disease in the event of loss of the key staff including the WOAH Reference Expert?

Yes

Activity	Description

Proficiency test	Perform in-house proficiency test of designated personnels by gel-based RT-PCR using a similar model pathogen (canine distemper virus) annually
The sequence and destroy project	Conduct the sequence and destroy project of RVCMs maintained in the laboratory with the key staff

B: Laboratory Systems

8. Does your laboratory have a Quality Management System certi▪ed according to an International Standard? If YES indicate the name of the quality management system adopted or currently in place. Also attach a scanned certificate of the system.

   Yes

   ISO/IEC 17025:2017 (Accreditation certificate is attached as a separate file)

9. Is your laboratory accredited by an international accreditation body? If 'yes' indicate test for which your laboratory is accredited and name of the accreditation body.

   Yes

   Reverse Transcription (RT)-PCR accredited by Japan Accreditation Board (JAB)
   https://www.jab.or.jp/en

10. Does your laboratory maintain a "biorisk management system" for the pathogen and the disease concerned?

    ☐ Yes

11. Does your laboratory have a biosecurity system in place to ensure security for the pathogen and materials that may contain the infectious pathogen?

    ☐ Yes

C: Capability to Respond to a Suspected Case

12. In the past year, did your laboratory perform diagnostic tests for the specified pathogen and the disease in order to confirm ongoing capability?

No (Instead, the NIAH perform the proficiency tests using canine distemper virus annually.)

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of tests performed last year

13. Did your laboratory produce vaccines for the specified disease or similar diseases?

Yes

Disease	Amount supplied nationally or internationally
LA-AKO based rinderpest vaccines (in process)	100,000 doses for domestic and 70,000 doses for global stock

14. Did your laboratory organise or participate in inter-laboratory pro▪ciency tests with any other laboratories for the specified disease or similar diseases?

No (Instead, the NIAH participates in inter-laboratory pro▪ciency tests for CSFV and ASFV organised by CFIA, Canada and Hannover University, Germany, and for AI by CSIRO, Australia)

Role of your laboratory (organiser or participant)	Disease	Test	Number of participating laboratories	Regions of participating WOAH Members

D: Networks and Linkages

15. Did your laboratory organise or participate in scienti▪c meetings for the specified disease?

No

Title of event	Date	Location	Role (organiser, speaker, presenter)	Title of work presented

16. Did your laboratory exchange information with other WOAH Reference Laboratories designated for the same pathogen or disease?

☐ Yes

17. Was your laboratory involved in maintaining a network with WOAH Reference Laboratories designated for the same pathogen or disease?

☐ Yes

18. Did your laboratory place expert consultants at the disposal of WOAH?

☐ No

19. Did your laboratory carry out activities to raise awareness and improve capability for this disease in other Members?

No (Instead, I provided a series of seminars including rinderpest in Taiwan; see above)

Description of activity	Date	Member countries

E: Biosafety

20. What level of biocontainment is used in your laboratory for (a) storage and (b) handling of potentially infectious material for the specified disease?

a: Biosafety level 3e
b: Biosafety level 3e

21. Does your laboratory maintain a structured risk assessment for work with potentially infectious material for the specified disease?

☐ Yes

22. Was your laboratory's risk assessment for work with potentially infectious material reviewed in the past year?

☐ Yes

23. Does your laboratory have an emergency response plan for biosafety incidents involving potentially infectious material for the specified disease?

☐ Yes

F: Research

24. Did your laboratory develop new diagnostic methods for the designated pathogen or disease, or a similar disease?

Yes

Disease	Diagnostic Method	Description
Lumpy Skin Disease	Conventional and Real-time PCR	Upon the first outbreak of LSD in Japan in late 2024, both PCR methods for the detection and differentiation of Genotypes 1 and 2 LSDV were developed and provided upon request from local governments

25. Did your laboratory participate in international scientific studies in collaboration with WOAH Members other than your own?

Yes

Title of study	Duration	Purpose of study	Partners (Institutions)	WOAH Members Involved other than your country
Verification of the novel ASFV/CSFV differentiation multiplex direct qPCR method	2023-2027	Verification of a new rapid and simultaneous detection method for ASFV and CSFV Using field case samples	National Institute of Veterinary Research	Vietnam

26. Did your laboratory collaborate with other WOAH Reference Laboratories for the same disease on scientific research projects for the diagnosis or control of the pathogen of interest or a similar pathogen?

No

Title of Project or Contract	Scope	Name(s) of relevant WOAH Reference Laboratories

27. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH? Please report them here: MS teams form

*Regulatory research needs = a gap in knowledge that could help in setting/updating standard(s) in the Terrestrial and Aquatic Codes and Manuals

Rinderpest virus (RPV) exhibits greater genetic divergence across lineages than was initially anticipated in earlier studies. Currently, the RBOK strain (Africa 1 lineage) and the LA-AKO strain (Far East lineage) vaccines are maintained in global emergency stockpiles. However, the cross-protective efficacy of these vaccines against strains from other lineages, such as Africa 2 and Asia/Middle East lineages, remains incompletely characterized. While this does NOT represent an urgent priority in the post-eradication era, it constitutes a notable knowledge gap that warrants attention for long-term preparedness.

Apart from Rinderpest, ASF has been causing large-scale outbreaks across East and Southeast Asia since 2018. In addition, viruses derived from either legally approved or illegal vaccines have been circulating, and in recent years, recombinant viruses resulting from genome recombination between these strains ▪ often exhibiting high virulence-appeared to be spreading and potentially outcompeting conventional epidemic strains, although the full epidemiological picture remains unclear. Given the increasing field use in the field of ASF vaccines, there is an urgent need for comprehensive epidemiological surveys of ASFV circulation in Asia, along with detailed research on the types, virulence, prevalence, and scale of circulation of attenuated strains and recombinant strains, to ensure vaccine safety and inform effective control strategies.

28. Additional comments regarding your report (if any):