World Organisation for Animal Health

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WOAH Collaborative Centre Reports Activities 2024

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CENTRE INFORMATION

***Title of WOAH Collaborating Centre**	Diagnosis and Control of Animal Diseases and Related Veterinary Product Assessment in Asia
***Address of WOAH Collaborating Centre**	(1) National Institute of Animal Health (NIAH), National Agriculture and Food Research Organization (NARO): 3-1-5, Kannondai, Tsukuba, Ibaraki 305-0856, Japan. (2) National Veterinary Assay Laboratory (NVAL): 1-15-1, Tokura, Kokubunji, Tokyo 185-8511, Japan.
***Tel:**	(1) +81 29 838 7704, (2) +81-42-321-1861
***E-mail address:**	(1) kawaken@naro.affrc.go.jp, (2) nval_oiecc@maff.go.jp
Website:	(1) http://www.naro.affrc.go.jp/english/index.html, (2) http://www.maff.go.jp/nval/english/index.html
***Name Director of Institute (Responsible Official):**	(1) Dr. Ken Katsuda, Director General (2) Dr. Tomoaki Shimazaki, Director General
***Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):**	Dr. Kenji Kawashima, Director, Department of Research Promotion, National Institute of Animal Health, National Agriculture and Food Research Organization (NIAH, NARO)
***Name of the writer:**	(1)Tohru Yanase, (2) Yuka Kobayashi

TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

Category	Title of activity	Scope

Epidemiology, surveillance, risk assessment, (true)	Meeting of the WOAH Biological Standards Commission, Paris, 5-9th February, 2024	Dr. KAWAJI Satoko participated as an expert of a member of WOAH Biological Standards Commission.
Veterinary medicinal products (true)	Submitting AMU data in 2022 and 2023 through ANIMUSE, January and December, 2024.	Dr. HOSOI Yuta submitted the antimicrobial sales data of 2022 and 2023 in Japan through the ANIMUSE.
Epidemiology, surveillance, risk assessment, (true)	Regional Seminar for WOAH National Focal Points for Veterinary Laboratories/4th Regional Meeting for WOAH Reference Centres in Asia and the Pacific, Tokyo, 16-19th July 2024	Dr. KOBAYAHSHI Sota participated as the represent of collaborative center. Dr. KAWAJI Satoko participated an expert of a member of WOAH Biological Standards Commission.
Epidemiology, surveillance, risk assessment, (true)	5th WOAH Regional Training on Swine Disease Diagnosis in Asia, Beijing, 30th July – 2nd August 2024	Drs KAWAGUCHI Rie and IKEDA Keigo participated as an expert of swine diseases.
Epidemiology, surveillance, risk assessment, (true)	Meeting of the WOAH Biological Standards Commission, Paris, 9-13th September, 2024	Dr. KAWAJI Satoko participated as an expert of a member of WOAH Biological Standards Commission.
Epidemiology, surveillance, risk assessment, (true)	Regional vector-borne disease workshop in Asia and the Pacific, Tokyo, 19-20th September, 2024	Dr. YANASE Tohru participated as an expert of vector-borne diseases.
Veterinary medicinal products (true)	Comments on the revision of WOAH Terrestrial Manual: chapter on 2.1.1 laboratory methodologies for bacterial antimicrobial susceptibility testing.	Dr. KAWANISHI Michiko created the comments for the revision of this chapter. Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HARADA Saki and Dr. KUMAKAWA Mio supported this work
Veterinary medicinal products (true)	Food Safety Webinar #3 - Approaches and Researches to reduce Antimicrobial use held by WOAH Collaborating Centre Consortium for Food Safety, 23th January, 2024.	Dr. KAWANISHI Michiko and Dr. HOSOI Yuta participated the webinar.
Veterinary medicinal products (true)	LAUNCH WEBINAR: Guidelines on monitoring antimicrobial use at the farm level, 12th February 2024.	Dr. KAWANISHI Michiko, Dr. MATSUDA Mari and Dr. HOSOI Yuta participated the webinar.

Veterinary medicinal products (true)	Tokyo AMR One-Health Conference, 28th February 2024.	Dr. KAWANISHI Michiko participates as an expert and gave a presentation about the Veterinary AMR Center. Dr. HARADA Saki and Dr. KUMAKAWA Mio participated as experts.
Veterinary medicinal products (true)	Comments on the revision of Quadripartite- Integrated Surveillance for AMR guidelines draft.	Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HARADA Saki and Dr. KUMAKAWA Mio commented on the draft.
Veterinary medicinal products (true)	1st Workshop on Substandard and Falsified Veterinary Products (SFVP) and WOAH pilot Veterinary Monitoring & Surveillance System for SFVP (WOAH - VSAFE) for WOAH Focal Points for Veterinary Products and Regulators of Veterinary Medicinal Products in Asia and Pacific 12-14th June 2024, Bangkok, Thailand.	Dr. OGURA Aki and Dr. KOBAYASHI Yuka participated as experts and gave a presentation about the regulations in Japan regarding to veterinary products.
Veterinary medicinal products (true)	Regional benchmarking workshop on AMR surveillance in human health, animal health and environment sectors, 8-10th May 2024, Bangkok, Thailand.	Dr. HOSOI Yuta participated as an expert and gave a presentation about One health approach conducted in Japan.
Veterinary medicinal products (true)	Technical Reference Group on Antimicrobial Use (AMU) Data Collection, 19th September and 26th November 2024.	Dr. HOSOI Yuta participated as an expert.
Veterinary medicinal products (true)	Comments on CHAPTER 6.10. Responsible and prudent use of antimicrobial agents in veterinary medicine, WOAH terrestrial animal health code.	Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HARADA Saki and Dr. KUMAKAWA Mio commented on the revisions.
Veterinary medicinal products (true)	An electronic expert group focusing on write a reflection paper on autogenous vaccines, 12th September 2024.	Dr. SATO Kota participated as an expert.
Veterinary medicinal products (true)	4th Regional Meeting for WOAH Reference Centres in Asia Pacific, 16-	Dr. KAWANISHI Michiko and Dr. HARADA Saki participated as experts, gave a presentation about Japan's experience about One Health/Multisectoral AMR Monitoring and Surveillance activities. Dr.

	19th July 2024, at Japan International Cooperation Agency Global Plaza.	HOSOI Yuta hosted a lab tour as one of the activities of the meeting, showcasing the initiatives of the AMR Center and providing a guided tour of the facility. 17 participants attended this tour.
Veterinary medicinal products (true)	Joining the VSAFE, 8th July 2024.	NVAL made a decision to join the VSAFE (Veterinary Monitoring and Surveillance System for Substandard & Falsified Veterinary Medicinal Products) and notified it to WOAH.
Veterinary medicinal products (true)	Workshop on AMU National Reports, Port Louis, 3-5th September 2024.	Dr. MATSUDA Mari gave an online presentation about the AMU report published in Japan. (i.e. Indicators and Charts in the AMU Report – Japan).
Veterinary medicinal products (true)	Comments on WOAH Terrestrial health code Chapter 6.8 on Harmonisation of national antimicrobial resistance surveillance and monitoring programmes.	Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HARADA Saki and Dr. KUMAKAWA Mio commented on the revisions.
Veterinary medicinal products (true)	Seminar "Data Collection System on Veterinary Medicine at farm-level aiming to reduce antimicrobial use", 11th October 2024, at the university of Tokyo.	Dr. HOSOI Yuta participated in the conference on location with Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HARADA Saki, Dr. KUMAKAWA Mio and Dr. SAEKI Yohei joining virtually.
Veterinary medicinal products (true)	Regional ANIMUSE Webinar for Asia and the Pacific, 6th November 2024.	Dr. MATSUDA Mari, Dr. HOSOI Yuta and Dr. SAEKI Yohei participated online.
Veterinary medicinal products (true)	Comments on Technical reference document listing antimicrobial agents of veterinary importance for bovine animals/cats and dogs.	Dr. SEKIYA Tatsuro, Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HARADA Saki and Dr. KUMAKAWA Mio commented on the revisions.
		This training was held at the National Veterinary Assay laboratory, aiming the transferring the knowledges and techniques of Antimicrobial Susceptibility tests and etc. to Asia-Pacific countries. The invitations were sent to Asia-Pacific countries' representatives. 5 participants from Sri Lanka, Singapore, Philippines, Taiwan and Vanuatu joined this training.

Veterinary medicinal products (true)	WOAH Laboratory Training on AMR Surveillance in Terrestrial / Aquatic Food Animals, 11-15th November 2024, at NVAL	Ms. AKAMA Ryoko, Dr. HARADA Saki, Dr. HOSODA Yuko, Dr. HOSOI Yuta, Dr. ISHII Tomoko, Dr. KAWANISHI Michiko, Dr. KOBAYASHI Yuka, Dr. KOKUBUN Reiko, Dr. KUMAKAWA Mio, Dr. MATSUDA Mari, Dr. OGURA Aki, Dr. SAEKI Yohei, Dr. SEKIGUCHI Hideto, Dr. SEKIYA Tatsuro, Dr. SHIMAZAKI Tomoaki and Ms. YAMADA Harumi were engaged in this training. Lectures: - The mechanism of the antimicrobial resistances - AST methods - AMR & AMU related surveillance system in Japan (JVARM: focusing on the veterinary area) - Risk management and Risk Assessment - How to tackle with the lack of breakpoints Hands-on trainings (Basic): - AST method: Broth microdilution method - AST method: Disk diffusion method - AST method: CBDE method (one of AST methods specialized for colistin) - AST method: Agar dilution method - Genetics Analysis: PCR Detection of resistance genes (Ex. mecA, mcr), etc. Hands-on trainings (Advanced) - MLST and Spa tying (excluding wet procedures), - Whole genome analysis (excluding wet procedures) - MALDI TOF-MS Visiting: - The ministry of Agriculture, Forestry, and fisheries (To be determined) - National Institute of Animal Health, National Agriculture and Food Research Organization - WOAH Tokyo office & the university of Tokyo

TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were designated

Proposal title	Scope/Content	Applicable Area
Revision of the VICH GLs concerning studies to evaluate the safety of residues of veterinary drugs in human food.	To revise the VICH GL23R (genotoxicity testing) To revise the VICH GL22 (reproduction studies)	Veterinary Products

Development or revision of the VICH GLs concerning studies to evaluate the metabolism and residue kinetics of veterinary drugs in food-producing animals/species.	To revise the VICH GL49R (guidelines for the validation of analytical methods used in residue depletion studies)	Veterinary Products
Development of VICH GLs concerning testing of biologicals.	To develop the new VICH GL (test on the presence of extraneous viruses in veterinary vaccines) To develop the new VICH GL (test on safety evaluation of biotechnology- derived/biological products) To develop the new VICH GL (transition to in vitro methods for batch potency tests in veterinary immunologicals)	Veterinary Products
Revisions of the VICH GLs concerning studies to evaluate the efficacy of anthelmintics	To revise the VICH GLs 7, 12 to 16 and 19 to 21.	Veterinary Products
Development of VICH GL concerning combination products.	To develop the new VICH GL (General GL on Pharmaceutical Combination Products)	Veterinary Products
Development of VICH GL concerning waiving on bioequivalence testing.	To develop the new VICH GL	Veterinary Products
Development of VICH GL concerning stability on medicated premixes.	To develop the new VICH GL	Veterinary Products
Development of VICH GL concerning quality on GMP for active pharmaceutical ingredients.	To develop the new VICH GL	Veterinary Products
Development of VICH GL for pharmaceutical development.	To develop the new VICH GL	Veterinary Products

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3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
National Institute of Veterinary Research (NIVR), Vietnam	Vietnam	Asia y el Pacífico	Collaborative research on surveillance, etiology, diagnosis, prevention, and control of viral infections of livestock importance in Vietnam
Polish National Veterinary Research Institute (PIWet-PIB)	Poland	Europa	Collaborative research on African swine fever, highly pathogenic avian influenza, and transmissible spongiform encephalopathy
Veterinary Research Institute Council of Agriculture (VRI), Taiwan	Taiwan	Asia y el Pacífico	Collaborative research on surveillance, diagnosis and control of transboundary animal diseases including foot-and-mouth disease, African swine fever, swine fever, highly pathogenic avian influenza, and arbovirus infections
State Central Veterinary Laboratory, Mongolia	Mongolia	Asia y el Pacífico	Technological cooperation, information exchange, and interchange of researchers to promote research on transboundary animal diseases including foot-and-mouth disease and African swine fever
Animal and Plant Quarantine Agency of the Ministry of Agriculture, Food and Rural Affairs of the Republic of Korea (MAFRA) (“APQA”)	Korea	Asia y el Pacífico	Development of the research cooperation in the field of avian influenza, foot-and-mouth disease, African swine fever and arbovirus infections

Friedrich-Loeffler-Institute (FLI), Germany	Germany	Europa	Exchange of information of epidemiology and etiology of highly pathogenic avian influenza in wild birds and poultry, and cooperative research on development and evaluation of diagnostic techniques
National Institute of Veterinary Research (NIVR), Vietnam	Vietnam	Asia y el Pacífico	Field tests of diagnostic tools for African swine fever and investigation of its prevalence in Vietnam
Regional Reference Laboratory for Foot and Mouth Disease in Southeast Asia (RRL)	Thailand	Asia y el Pacífico	Conducting surveys and research to contribute to the development of smart agriculture by assisting in the establishment of “anti-epidemic measures against persistently FMDV-infected cloven-hoofed livestock” in Thailand
Equine Research Institute, Japan Racing Association (RL)	Japan	Asia y el Pacífico	Cooperation for proficiency testing by interlaboratory comparison and for diagnosis of equine encephalomyelitis
Research center for food safety (University of Tokyo)	Japan	Asia y el Pacífico	To deepen the analysis of antimicrobial usage pattern in the field
Hokkaido University	Japan	Asia y el Pacífico	Cooperation for proficiency testing by interlaboratory comparison, and research on avian influenza and classical swine fever
National Institute of Infectious Diseases	Japan	Asia y el Pacífico	Development of One Health Surveillance
			Exchange information about

Animal Health Research Institute, Taiwan	Taiwan	Asia y el Pacífico	activities of WOAH Collaborating centre and WOAH Reference Laboratory.
Equine Research Institute, Japan Racing Association (RL)	Japan	Asia y el Pacífico	Cooperation for proficiency testing by interlaboratory comparison and for diagnosis of equine encephalomyelitis
Research center for food safety (University of Tokyo)	Japan	Asia y el Pacífico	To deepen the analysis of antimicrobial usage pattern in the field
Hokkaido University	Japan	Asia y el Pacífico	Cooperation for proficiency testing by interlaboratory comparison, and research on avian influenza and classical swine fever

TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

No

TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

Name of expert	Kind of consultancy	Subject
Dr. KAWAJI Satoko	WOAH Biological Standards Commission	Member
Dr. YANASE Tohru	WOAH Regional Resource Persons about arthropod vector surveillance and control	Member
Dr. KOKUHO Takehiro	FAO-WOAH Rinderpest Holding Facility, Category A	Contact Person

Dr. TAKAGI Michihiro	FAO-WOAH Rinderpest Holding Facility, Category B	Contact Person
Dr. IWAMARU Yoshifumi	WOAH Reference Laboratory, BSE	Reference Laboratory
Dr. FUKAI Katsuhiko	WOAH Reference Laboratory, CSF	Reference Laboratory
Dr. MINE Junki	WOAH Reference Laboratory, Swine Influenza	Reference Laboratory
Dr. KOKUHO Takehiro	WOAH Reference Laboratory, Rinderpest	Reference Laboratory
Dr. SEKIGUCHI Hideto, Dr. KAWANISHI Michiko, Dr. MATSUDA Mari, Dr. HOSOI Yuta, Dr. HIRAOKA Yukari, Dr. HARADA Saki, Dr. KUMAKAWA Mio	WOAHRRAP Experts on AMR monitoring	Member
Dr. IWAMOTO Shoko, Dr. EGUCHI Kaoru	VICH Steering Committee	Member
Dr. OCHIAI Mariko	VICH Steering Committee	Coordinator
Dr. SATO Kota	VICH Biologicals Expert Working Group	Chairperson
Dr. KIKUTANI Yuto(-March),		Member

Dr, YAMASHITA Maiko (April-)	VICH Biologicals Expert Working Group	
Dr. KIDA Moeko	VICH Biologicals Expert Working Group	Advisor
Dr. OGATA Tomoko	VICH Quality Expert Working Group	Chairperson
Dr. HOSODA Yuko (-November), Ms. AKAMA Ryoko (December-) Dr. EGUCHI Kaoru	VICH Quality Expert Working Group	Member
Dr. TANITA Natsumi(-March), Dr. ISHIKAWA Ryoko (-March), Mr. TAMURA Naoya (April-), Dr. AKIYAMA Kaoru (-November)	VICH Quality Expert Working Group	Advisor
Ms. IWASAKI Masako	VICH Bioequivalence Expert Working Group	Member
Dr. OGINO Tomoe	VICH Bioequivalence Expert Working Group	Advisor
Mr. KOIKE Ryoji	VICH Metabolism and Residue Kinetics Expert Working Group	Member
Dr. OZAWA Manao	VICH Safety Expert Working Group	Member
Dr. OGATA Tomoko	VICH Safety Expert Working Group	Advisor

Dr. EGUCHI Kaoru	VICH Expert Working Group for a General Guideline on Pharmaceutical Combination Products	Member
Dr. OGINO Tomoe	VICH Anthelmintics Expert Working Group	Member
Mr. KOIKE Ryoji	VICH Anthelmintics Expert Working Group	Advisor
Dr. OGATA Tomoko	VICH Medicated premix Expert Working Group	Member
Ms. KANEHARA Mariko	VICH Pharmacovigilance Expert Working Group	Member
Dr. EGUCHI Kaoru	VICH Pharmacovigilance Expert Working Group	Advisor
Mr. KOIKE Ryoji, Dr. TANITA Natsumi	Task Force on a Global regulatory Dossier Framework for pharmaceutical Veterinary Medicinal Product applications	Member

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

To South Korea:

We provided the information about the contents of WOAH training for Asian countries held by NVAL.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit : 86

b) Seminars : 0

c) Hands-on training courses: 7

d) Internships (>1 month) : 6

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	Lab visit	Thai	1
A	Lab visit; 4th Regional Meeting for WOAH Reference Centres in Asia Pacific	India, Vietnam, Cambodia, China P.R., Philippines, Maldives, Thailand, Australia, Papua New Guinea, Japan, Uganda, Eritrea, Fiji, Mongolia	17
A	Lab visit	Bolivia	3
A	Lab visit	America	27
A	Lab visit	Thai	1
A	Lab visit; 4th Regional Meeting for WOAH Reference Centres in Asia Pacific	Malaysia, Singapore, Bhutan, New Zealand, Thai, Myanmar, Vanuatu, Indonesia, Australia	10
A	Lab visit	Bangladesh, Mongolia, Philippines, Kyrgyz, Viet Nam, Nepal, Myanmar, Thai, Malaysia, Sri Lanka	13
A	Lab visit	Thai	5
A	Lab visit	Sri Lanka, Singapore, Taiwan, Vanuatu, Philippines, Pakistan	6
A	Lab visit in JTEPA Hands-on	Thai	3

	Training		
C	Hands-on Training	Brazil	2
C	WOAH Laboratory Training on AMR Surveillance in Terrestrial / Aquatic Food Animals	Sri Lanka, Singapore, Philippines, Taiwan, Vanuatu	5
D	Training course titled as 'Improvement of basic technique of livestock disease diagnosis' (Japan International Cooperation Agency: JICA) from 25th June to 23th October,2024	Eritrea, Papua Niugini, Paraguay, Philippines, Uganda, Uzbekistan	6

TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	VICH coordinators 12th virtual meeting	VICH	2024-02-08	Teleconference	9
Internationally	the 1st virtual meeting of the VICH Bioequivalence EWG	VICH	2024-02-14	Teleconference	13
Internationally	the 2nd virtual meeting of the VICH Bioequivalence EWG	VICH	2024-03-19	Teleconference	12
Internationally	the 3rd virtual meeting of the VICH Bioequivalence EWG	VICH	2024-05-21	Teleconference	13
Internationally	the 1st virtual meeting of the VICH Biologicals EWG Batch Potency Tests Subgroup	VICH	2024-05-30	Teleconference	13

Internationally	VICH coordinators 13th virtual meeting	VICH	2024-06-24	Teleconference	9
Internationally	the 2nd virtual meeting of the VICH Biologicals EWG's Bio-Product safety subgroup	VICH	2024-08-21	Teleconference	11
Internationally	the 1st virtual meeting of the Task Force to create a CP for a GL for a GRDF for pharmaceutical VMPs	VICH	2024-08-27	Teleconference	14
Internationally	the 2nd virtual meeting of the Task Force to create a CP for a GL for a GRDF for pharmaceutical VMPs	VICH	2024-09-05	Teleconference	12
Internationally	VICH coordinators' 14th virtual meeting	VICH	2024-09-25	Teleconference	9
Internationally	the 2nd virtual meeting of the VICH Biologicals EWG Batch Potency Tests Subgroup	VICH	2024-10-07	Teleconference	14
Internationally	the 4th virtual meeting of the VICH Bioequivalence EWG	VICH	2024-10-21	Teleconference	12
Internationally	the meeting of the VICH Bioequivalence EWG	VICH	2024-11-08	Amsterdam	12
Internationally	43th VICH steering committee meeting	VICH	2024-11-10	Amsterdam	43
Internationally	16th VICH Forum meeting	VICH	2024-11-11	Amsterdam	61
Internationally	VICH 7th Conference	VICH	2024-11-13	Amsterdam	180
Internationally	the 1st virtual meeting of MRK EWG	VICH	2024-11-05	Teleconference	15

TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

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1) Akagami M, Fujii Y, Ouchi Y, Hayama Y. Screening for Japanese Black cattle herds at risk of bovine leukemia virus transmission based on the presence of persistent lymphocytosis. Res Vet Sci. 2024 Nov;180:105421. doi:10.1016/j.rvsc.2024.105421.

2) Andoh K, Hayashi T, Nishimori A, Matsuura Y. Detection of IgM antibodies against bovine viral diarrhea virus using IgM capture ELISA on farms with persistently infected cattle. Heliyon. 2024 Aug 17;10(16):e36201. doi:10.1016/j.heliyon.2024.e36201.

3) Arai N, Shibahara T, Nishiura R, Tamamura-Andoh Y, Nishiura H, Muneta Y, Sawada H, Watanabe-Yanai A, Iwata T, Akiba M, Kusumoto M. ICEmST contributes to colonization of Salmonella in the intestine of piglets. Sci Rep. 2024 Dec 28;14(1):31407. doi: 10.1038/s41598-024-83039-6.

4) Budge GE, Burns N, Takamatsu D, Erler S, Forsgren E, Grossar D, Hornitzky M, Milbrath M, Pufal H, Tomkies V, Wood S, Yordanova M, Charriere JD. Standard methods for European foulbrood research 2.0. J Apic Res. doi:10.1080/00218839.2024.2380425

5) Fukui M, Uraguchi K, Numa H, Suzuki T, Karasawa M, Maita K, Yokozawa T, Hayama Y, Makita K. Ecological factors associated with fox feces density in an Echinococcus multilocularis endemic zone in Japan. Front Vet Sci. 2024 Nov 5;11:1387352. doi: 10.3389/fvets.2024.1387352.

6) Goto S, Mikami O, Nagasawa Y, Watanabe A. Bovine neutrophils stimulated with Streptococcus uberis induce neutrophil extracellular traps, and cause cytotoxicity and transcriptional upregulation of inflammatory cytokine genes in bovine mammary epithelial cells. J Vet Med Sci. 2024 Feb 8;86(2):141-149. doi:10.1292/jvms.23-0302.

7) Hayashi N, Hosokawa K, Yamamoto Y, Kodama S, Kurokawa A, Nakao R, Nonaka N. A filarial parasite potentially associated with the health burden on domestic chickens in Japan. Sci Rep. 2024 Mar 15;14(1):6316. doi:10.1038/s41598-024-55284-2.

8) Hiramatsu K, Ikeda R, Kawaji S, Ueno Y, Nagata R, Hayashi KG, Iga K, Yoshioka M, Takenouchi T. Isolation and propagation of bovine blood-derived macrophages using a mixed culture with bovine endothelial B46 cells. Cell Biol Int. 2024 Jan;48(1):76-83. doi: 10.1002/cbin.12102.

9) Honda M, Setoyama H, Nabekura R, Murota K, Suda Y, Yanase T. Isolation and whole-genome sequence analysis of Balagodu virus in Japan. Virus Genes. 2024 Jun;60(3):325-331. doi: 10.1007/s11262-024-02060-z.

10) Immaru M, Ueno Y, Hinago K, Hamada K, Ogawa T. Vaginitis with purulent vaginal discharge caused by artificial insemination using frozen Histophilus somni-contaminated semen. Vet Microbiol. 2024 Aug;295:110147. doi:10.1016/j.vetmic.2024.110147.

11) Inoue D, Hayashima A, Suzuta F, Motomura Y, Kawamoto Y, Yoshino F, Morita K, Hirai Y, Iwamatsu S, Nakazato S, Kimura K, Yanase T. Congenital malformations caused by Akabane virus in porcine fetuses in southern Japan. Vet Res Commun. 2024 Feb;48(1):449-457. doi: 10.1007/s11259-023-10230-x. Epub 2023

12) Inoue K, Takashima Y, Hirano S, Kimura K. Granulomatous pneumonia in a cow infected with Toxoplasma gondii. Parasitol Int. 2024 Aug;101:102870. doi:10.1016/j.parint.2024.102870.

13) Irie M, Kita C, Yamagami T, Miyoshi T, Fujiki N, Kuriyagawa Y, Hanafusa Y, Chambers JK, Uchida K. A case of Exophiala dermatitidis-induced phaeohyphomycosis in a cat with multiple intra-abdominal masses. J Vet Med Sci. 2024 May 25;86(5):550-554. doi: 10.1292/jvms.23-0410.

14) Iwasa M, Shido Y, Hatama S. The possible role of haematophagous flies in the incidence of bovine teat papillomatosis. Med Vet Entomol. 2024 Sep;38(3):280-290. doi: 10.1111/mve.12714.

15) Kambayashi Y, Nemoto M, Ochi A, Kishi D, Ueno T, Tsujimura K, Bannai H, Kawanishi N, Ohta M, Suzuki T. Equine coronavirus infection and replication in equine intestinal enteroids. Vet Res. 2024 Oct 10;55(1):135. doi:10.1186/s13567-024-01381-z.

16) Kawaguchi R, Nishi T, Fukai K, Ikezawa M, Kokuho T, Morioka K. Effect of doubled dose administration of foot-and-mouth disease vaccine against heterologous virus infection in cattle. J Vet Med Sci. 2024 Jul 2;86(7):777-786. doi: 10.1292/jvms.24-0115.

17) Kumagai A, Soga Y, Kimura K, Hatama S. Isolation and complete genomic characterization of a Movar 33/63-like Japanese bovine herpesvirus 4 from a calf with respiratory disease. J Vet Med Sci. 2024 Jun 1;86(6):645-652. doi:10.1292/jvms.24-0028.

18) Lunha K, Chumpol W, Jiemsup S, Yongkiettrakul S, Li JQ, Kerdsin A, Takamatsu D, Meekhanon N. Serotype distribution and pathotypic characteristics of Streptococcus suis isolates from slaughtered pigs in a high-density pig farming area in Thailand. Transbound

Emerg Dis.2024 Jul 10;2024:186518. doi:10.1155/2024/3186518.

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b) International conferences:

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1) Dr. HAYAMA Yoko attended on 17th International Symposium on Veterinary Epidemiology and Economics, November 11-15, 2024 and gave the presentation about Landscape factors influencing the probability of finding wild boar carcasses: comparison of classical swine fever virus-infected and non-infected wild boar.

2) Dr. KAWAGUCHI Rie attended on Open Session 2024 of the EuFMD Standing Technical Committee, October 29-31, 2024 and gave the presentation about Phylogenic characterization and pathogenicity in cattle and pigs of foot-and-mouth disease viruses circulating in Myanmar between 2016 and 2022.

3) Dr. KITAMURA Tomoya attended on the 4th Joint Meeting of Veterinary Science in East Asia, September 8-9, 2024 and gave the presentation about Research for the control of African swine fever and classical swine fever in Japan.
4) Dr. KITAMURA Tomoya attended on The Cutting Edge of African Swine Fever Research Symposium, October 17-18, 2024 and gave the presentation about Research on African swine fever vaccines in Japan.
5) Dr. KOBAYASHI Sota attended on 17th International Symposium on Veterinary Epidemiology and Economics, November 11-15, 2024 and gave the presentation about On-farm trials to evaluate the effectiveness of the improved farm hygiene management to reduce the antimicrobial resistance.
6) Dr. KONDO Sonoko attended on 17th International Symposium on Veterinary Epidemiology and Economics, November 11-15, 2024 and gave the presentation about Identification of risk factors for the introduction of highly pathogenic avian influenza H5N1 virus onto commercial layer farms in the 2022-2023 epidemic in Japan: a case-control study.
7) Dr. KUROKAWA Aoi attended on 14th International Symposium on Marek's Disease and Avian Herpesviruses, July 12-14, 2024 and gave the presentation about immunohistochemical analysis of Meq expression and immunophenotyping in spontaneous chicken lymphomas occurring in Japan.
8) Dr. MASUJIN Kentaro attended on The Cutting Edge of African Swine Fever Research Symposium, October 17-18, 2024 and gave the presentation about Develop an immortalized porcine macrophage cell line supporting efficient replication of the African swine fever virus - a milestone toward the development of the African swine fever vaccine.
9) Dr. MORIOKA Kazuki attended on The 4th Joint-meeting of Veterinary Science in East Asia, September 8-9, 2024 and gave the presentation about Research on the control of food-and-mouth disease in Japan.
10) Dr. MORIOKA Kazuki attended on Open Session 2024 of the EuFMD Standing Technical Committee, October 29-31, 2024 and gave the presentation about Studies on the susceptibility of cells to foot-and-mouth disease virus and other vesicular diseases.
11) Dr. MURATO Yoshinori attended on 17th International Symposium on Veterinary Epidemiology and Economics, November 11-15, 2024 and gave the presentation about Estimation of the cohabitation risk of Johne's disease infection in Japan.
12) Dr. NISHI Tatsuya attended on The Cutting Edge of African Swine Fever Research Symposium, October 17-18, 2024 and gave the presentation about Establishment of a direct PCR Assay for simultaneous differential diagnosis of African swine fever and classical swine fever using diverse clinical samples.
13) Dr. NISHI Tatsuya attended on Open Session 2024 of the EuFMD Standing Technical Committee, October 29-31, 2024 and gave the presentation about New antiviral agent against foot-and -mouth disease virus utilizing natural compounds produced by microorganisms.
14) Dr. OKURA Masatoshi attended on The 6th Veterinary Technology & Nursing International Seminar, December 12-13, 2024 and gave the presentation about Effect of serotypes switching on virulence in Streptococcus suis.
15) Dr. SHIRAFUJI Hiroaki attended on the 4th Joint Meeting of Veterinary Science in East Asia, September 8-9, 2024 and gave the presentation about Investigation of reversion to virulence of a cell culture-adapted, attenuated African swine fever virus strain in pigs.
16) Dr. TAKAMATSU Daisuke. attended on SPS Committee Thematic Session on Emerging Risks and New Agricultural Technologies to Address Them, November 11, 2024 and gave the presentation about Development of methods for detecting pathogens and antibiotic resistance genes in honey.
17) Dr. YAMAGUCHI Emi attended on 17th International Symposium on Veterinary Epidemiology and Economics, November 11-15, 2024 and gave the presentation about Risk factors of highly pathogenic avian influenza infection in the epidemics in Japan from 2022 to 2023.
18) Dr. WATANABE-YANAI Ayako, attended on 13th International Symposium on Toxic Microorganisms "Approaches for risk analysis and food safety", September 17-18, 2024 and gave the presentation about Transcriptomic analysis of Campylobacter jejun.
19) Dr. NISHIMORI Asami participated and gave presentation titled as Effect of C-to-T transition at CpG sites on tumor suppressor genes in cattle developing enzootic bovine leukosis at The 4th Joint Meeting of Veterinary Science in East Asia, 8-9th September, Obihiro, Japan.
20) Dr. IWAMARU Yoshifumi participated and gave presentation titled as Effect of C-to-T transition at CpG sites on tumor suppressor genes in cattle developing enzootic bovine leukosis, 31th November-1st December, Sapporo, Japan.
21) Dr. TAKADATE Yoshiro participated and gave presentation titled as Phylogenetic analysis of H5N1 and H5N2 high pathogenicity avian influenza viruses (Clade 2.3.4.4b) isolated from poultry in Japan during 2022/2023 season. at Options XII for the control of Influenza, 29th September-2nd October, Brisbane Australia.
22) Dr. KAWANISHI Michiko participates as an expert and gave a presentation about the veterinary AMR center at Tokyo AMR One-Health Conference, on 28th February 2024, Tokyo, Japan.
23) Dr. HOSOI Yuta participated as an expert and gave a presentation about One health approach conducted in Japan at Regional benchmarking workshop on AMR surveillance in human health, animal health and environment sectors, 8-10th May 2024, Bangkok,

Thailand.
24) Dr. OGURA Aki and Dr. KOBAYASHI Yuka participated as experts and gave a presentation about the regulations in Japan regarding to veterinary products at 1st Workshop on Substandard and Falsified Veterinary Products (SFVP) and WOAH pilot Veterinary Monitoring & Surveillance System for SFVP (WOAH - VSAFE) for WOAH Focal Points for Veterinary Products and Regulators of Veterinary Medicinal Products in Asia and Pacific, 12-14th June 2024, Bangkok, Thailand.
25) Dr. KAWANISHI Michiko and Dr. HARADA Saki participated as experts, facilitated one session and gave a presentation about Japan's experience about One Health/Multisectoral AMR Monitoring and Surveillance activities at 4th Regional Meeting for WOAH Reference Centres in Asia Pacific, 16-19th July 2024, held in Japan.
26) Dr. KAWANISHI Michiko and Dr. KUMAKAWA Mio participated as experts and gave a presentation at Regional Training the International FAO Antimicrobial Resistance Monitoring (InFARM) System and IT platform, 23–26th July 2024, Bangkok, Thailand.
27) Dr. SATO Kota participated as an expert to an electronic expert group focusing on write a reflection paper on autogenous vaccines, 12th September 2024.
28) Dr. HOSOI Yuta participated as an expert to Technical Reference Group on Antimicrobial Use (AMU) Data Collection, 19th September and 26th November 2024.
29) Dr. MATSUDA Mari gave an online presentation about the AMU report published in Japan at Workshop on AMU National Reports, Port Louis, 3–5th September 2024.
30) Dr. IWAMOTO Shoko gave a presentation about VICH restructuring on VICH 7 conference, Amsterdam, Netherland, 13th November 2024.
31) Dr. SATO Kota gave a presentation about new science in veterinary biologics on VICH 7 conference, Amsterdam, Netherland, 14th November 2024.
32) Dr. IWAMOTO Shoko gave a presentation about Japanese Regulatory approach to unmet needs (regulatory flexibilities, encouraging innovation, limited use, minor use minor species) on 17th VICH Forum meeting, Amsterdam, Netherland, 12th November 2024.

c) National conferences:
4
1) Dr. KAWANISHI Michiko attended the 167th meeting of the Japanese Society of Veterinary Science Japan and gave the presentation about Evaluation of Drug Resistance and Genetic Features of Third-Generation Cephalosporin-Resistant E. coli in Healthy Domestic Chickens.
2) Dr. HOSOI Yuta attended the 167th meeting of the Japanese Society of Veterinary Science Japan and gave the presentation about Investigation of Fosfomycin Resistance in Escherichia coli and Salmonella spp. Derived from Domestic Cattle.
3) Dr. HARADA Saki attended the 167th meeting of the Japanese Society of Veterinary Science Japan and gave the presentation about Analysis of MIC and Disk Diffusion Inhibition Zones in Streptococcus suis.
4) Dr. KUMAKAWA Mio attended the 167th meeting of the Japanese Society of Veterinary Science Japan and gave a presentation about Analysis of MIC and Disk Diffusion Inhibition Zones in Actinobacillus pleuropneumoniae.

d) Other (Provide website address or link to appropriate information):
0

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
(1) NIAH, NARO
1) The high pathogenicity avian influenza viruses of the 2022 season are genetically diverse.
https://www.naro.go.jp/english/laboratory/niah/press/hpaiv20231/index.html.
2) Reducing antimicrobial discharge through wastewater treatment and composting in swine farming.
https://www.naro.go.jp/english/topics/laboratory/niah/161759.html.
3) Characteristics of high pathogenicity avian influenza viruses of the 2023 season.
https://www.naro.go.jp/english/topics/laboratory/niah/165923.html.

4) Establishment of an immortalized red river hog blood-derived macrophage cell line as a valuable tool for African swine fever virus research. https://www.naro.go.jp/english/topics/laboratory/nias/166574.html.
(2) NVAL
1) Japan decided to participate in VSAFE by WOAH and InFARM by FAO.
2) Scheme and data from JVARM (Japanese Veterinary Antimicrobial Resistance Monitoring System) has been published in English on the website of NVAL. https://www.maff.go.jp/nval/yakuzai/yakuzai_p3.html

12. Additional comments regarding your report:
None