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**	Animal Feed Safety and Analysis
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***Name Director of Institute (Responsible Official):**	KIUCHI Takeshi
***Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):**	KUNUGI Yutaka, Vice-president
***Name of the writer:**	ISHIBASHI Takayuki

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
		We conducted hands-on technical

Training, capacity building (true)	JTEPA Training on Antimicrobial in Feed	training on the analysis of residual monensin sodium in animal feed under the Japan-Thailand Economic Partnership Agreement (JTEPA). [Jul. 3rd]
Feed safety (true)	Inspection and analysis of pesticide residues in feed	Inspection for pesticides with regulation values in Japan and surveillance of other pesticides in feed ingredients and formula feeds
Feed safety (true)	Inspection and analysis of mycotoxins in feed	Inspection for mycotoxins with regulation values in Japan and surveillance of other mycotoxins in feed ingredients and formula feeds
Feed safety (true)	Inspection of heavy metals in feed	Inspection for heavy metals with regulation values in Japan: cadmium, mercury, lead, and arsenic
Feed Safety (true)	Inspection of microorganisms in feed	Inspection for Salmonella contamination in feed
Feed Safety (true)	Inspection of animal-derived protein in feed	Inspection to ensure that prohibited animal-derived proteins are not mixed into feed to prevent occurrence of BSE
Feed Safet (true)	Inspection of insoluble impurities in animal oil and fat	Inspection of animal oil and fat for insoluble impurities to prevent the occurrence of BSE
Feed Safety (true)	Inspection and official test assay of antimicrobial in feed and feed additives	Inspection of antimicrobial substance contents in formula feeds and feed additives in Japan, including official testing of specified feed additives
Feed Safety (true)	Inspection of antioxidant	Inspection for antioxidants in formula feeds
		Development of official methods for feed analysis in Japan (7 research projects) 1.

Feed Safety (true)	Development of analytical methods for animal feed	Study of Determination Method of Glyphosate in Grass Hay at Concentration Equivalent to the Regulation Value 2. Study of Determination Method of Fumonisin in Corn Silage and Whole-Crop Rice Silage by LC-MS/MS 3. Study of Determination Method of PFAS in Corn, Fish Meal and Fish Oil by LC-MS/MS 4. Study of Determination Method of Cystine, Lysine, Methionine and Threonine in Formula Feed for Pigs by LC 5. Study of Determination Method of 3-nitrooxypropanol in Formula Feed for Cattle by LC 6. Study of Detection Method of Fecal Coliforms for Pet Foods 7. Monitoring Results of Antimicrobial Resistance of Enterococci Isolated from Animal Feed
Feed Safety (true)	Publication of “Research Report of Animal Feed ”	“Research Report of Animal Feed” are published on our website.(Latest volume:49(2024)) It contains development and improvement studies of analytical methods and inspection and surveillance results.
Feed Safety (true)	Sharing updated information of the Laboratory Network for Animal Feed Safety in Asia and the Pacific	We compiled the results of the reports on animal feed safety we requested for the members of the laboratory network in 2023. We shared the results with the participating countries and published them on our website. In addition, we prepared the next technical workshop based on the responses from each country.
Feed Safety (true)	Cooperation with the Regional Seminar for WOAH National Focal Points for Veterinary Laboratories	In response to a request from the WOAH-RRAP, FAMIC accepted a visit to the facility for Regional Seminar for WOAH National Focal Points for Veterinary Laboratories, and introduced feed regulations and feed analysis in Japan. [Jul. 17th]
Feed Safety (true)	Participation in the Regional Meeting for WOAH Reference Centres in Asia and the Pacific	We participated in the 4th Regional Meeting for WOAH Reference Centres in Asia and the Pacific. (hybrid) [Jul. 19th]
		We provided the opportunity of training for feed inspectors in local authorities.

Training, capacity building (true)	2024 technical training on feed safety inspection	Two seminars were conducted, containing lectures and technical training as below. Lecture: About Act on Safety Assurance and Quality Improvement of Feeds Lecture: How to take a sample of feed Technical Training: How to conduct feed analysis [1st: Jun. 18th] [2nd:Nov. 6th-8th]
Training, capacity building (true)	Online course on obtaining feed manufacturing manager qualification.	We conducted the training course, to qualify as supervisor of feed manufacture responsible for the production of feed and feed additives required by law, by video streaming. (online training) [Jan. 10th – Feb. 29th]
Training, capacity building (true)	Seminar of Good Manufacturing Practice(GMP) for feed	To enhance the knowledge about Good Manufacturing Practice (GMP) on feed manufacturing, we held virtual seminar (Training) for feed manufacturers. The training was conducted by video streaming. [Jan. 23rd – Mar. 12th]
Training, capacity building (true)	Proficiency test on feed analysis for feed manufacture, analysis laboratory and prefecture laboratory	We conducted proficiency test for feed manufacturers, laboratories and prefectural laboratory in Japan, as below. In 2024, three feed samples were distributed, and 206 participants reported their results of analysis. We conducted statistical analysis of the results and provided comments to the participants to ensure accurate analysis.

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
Development of Fumonisin (Mycotoxin) Determination Method	Development of determination method of fumonisin in corn silage and whole-crop rice silage by LC-MS/MS was conducted and published on the FAMIC website.	Animal Production
Study of Fecal Coliform Detection Method for	Study of fecal coliform detection method for pet food was conducted and published on the FAMIC	Animal Production

Pet Food	website.	
Validation Study on Monensin Sodium Determination Method for Formula Feed for Cattle Containing Hay and Straw Cube	Validation study on monensin sodium determination method for formula feed for cattle containing hay and straw cube was conducted and published on the FAMIC website.	Animal Production
(Formula feed with reduced environmental impact) Study of Simultaneous Determination Method of Cystine, Lysine, Methionine and Threonine (Amino Acid)	Development of simultaneous determination method of cystine, lysine, methionine and threonine in formula feed for pigs by automatic amino acid analyzer was conducted and published on the FAMIC website.	Animal Production
Validation Study of Simultaneous Determination Method of Aflatoxins by LC (Application to Whole-Crop Rice Silage and Ear Corn Silage)	Validation study of simultaneous determination method of aflatoxins by LC (application to whole-crop rice silage and ear corn silage) was conducted and published on the FAMIC website.	Animal Production
Study of Plastic Film Bags for Moisture Content Determination in Wet Pet Food	Study of plastic film bags for moisture content determination in wet pet food was conducted and published on the FAMIC website.	Animal Production
Study of Alternative Determination Method without Helium (Simultaneous Determination Method of Pesticides by LC-MS/MS)	Study of alternative determination method without helium (simultaneous determination method of pesticides by LC-MS/MS) was conducted and published on the FAMIC website.	Animal Production
Study of Alternative Determination Method without Helium (Inorganic Arsenic in Pet Food)	Study of alternative determination method without helium (inorganic arsenic in pet food) was conducted and published on the FAMIC website.	Animal Production
Monitoring of Antimicrobial Resistance of Enterococci Isolated	Monitoring of antimicrobial resistance of Enterococci isolated from animal feed was conducted and published on the FAMIC website.	Veterinary Products

from Animal Feed		

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

No

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 Research Centre for Animal Nutrition (NRCAN)	BHUTAN	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Veterinary Laboratory Services	Brunei Darussalam	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Iran Veterinary Organization (IVO)	Iran	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Ministry of Agriculture, Livestock and Irrigation (MoALI)	Myanmar	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
			(Laboratory Network on Animal Feed Safety in Asia

National Animal Feed Livestock Quality Management Laboratory (NAFLQML)	Nepal	Asia y el Pacífico	and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Laboratory of New Caledonia	New Caledonia	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Singapore Food Agency (SFA)	Singapore	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Veterinary Research Institute	Sri Lanka	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Bureau of Quality Control of Livestock Product (BQCLP)	Thailand	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis
Division of Animal Quarantine and Inspection (AQID)	Vietnam	Asia y el Pacífico	(Laboratory Network on Animal Feed Safety in Asia and the Pacific):Exchange of information on animal feed safety in Asia and Pacific and provide technical support for feed analysis

TOR 4 AND 5: NETWORKING AND COLLABORATION

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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?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
National Veterinary Assay Laboratory (WOAH Collaborating Centre for Diagnosis and Control of Animal Diseases and Related Veterinary Product Assessment in Asia)	Tokyo, JAPAN	Asia and Pacific	JVARM (the Japanese Veterinary Antimicrobial Resistance Monitoring System) has been in place since 1999 in response to international concern about the impact of antimicrobial resistance on public health. In this system, FAMIC has a vital role in analyzing monitoring results for the presence of antimicrobial resistant bacteria in collaboration with the National Veterinary Assay Laboratory in Japan. FAMIC exchanges the feed safety information in feed safety meeting that is held every year
National Institute of Animal Health, National Agriculture and Food Research Organization (WOAH Collaborating Centre for Diagnosis and Control of Animal Diseases and Related Veterinary Product Assessment in Asia)	Ibaraki, Japan	Asia and Pacific	FAMIC exchanges the feed safety information in meeting for feed safety that is held every year.
Institute of Food Research, National Agriculture and Food Research Organization	Ibaraki, Japan	Asia and Pacific	FAMIC conducts collaborative research on edible insects with Institute of Food Research, National Agriculture and Food Research Organization. In addition, we exchanges the feed safety information by stationing our staff.

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
Mr. YAMATA Toshiaki	Risk management for feed safety	Systems for Risk Management of Substances Related to Feed Safety
Dr. AOYAMA Koji	Feed analysis	Analytical methods for mycotoxins, pesticides, heavy metals, etc.
Mr. ISHIBASHI Takayuki	Feed analysis	Analysis for feed safety using bio-chemical methods such as PCR, ELISA and bioassay.

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

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

Yes

We conducted hands-on technical training on the analysis of residual antimicrobials in animal feed, following a request from Thailand.
In response to a request from South Korea, we held an online seminar on Japan's pet food safety management and safety information management systems.
We hosted a visit by livestock industry professionals from Bangladesh and provided an overview of Japan's risk management systems and inspection procedures for ensuring animal feed safety.
We compiled the reports on the status of feed inspection and analysis, along with the results of a questionnaire on the request for future technical workshops (TW) conducted last year for participating countries in the Asia-Pacific region. The compiled results were shared with the participating countries and published on our Laboratory Network website. In addition, we planned the next technical workshop based on the results of the questionnaire.
In response to a request from the WOAH-RRAP, FAMIC accepted a visit to the facility for Regional Seminar for WOAH National Focal Points for Veterinary Laboratories, and introduced feed regulations and feed analysis in Japan.

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 : 26

b) Seminars : 942

c) Hands-on training courses: 7

d) Internships (>1 month) : 0

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	Understanding the Risk-based Clearance Process of Animal and Animal Products Best practice visit to Japan	Bangladesh	13
C	JTEPA Training on Veterinary Medicinal Products 2024	Thailand	3
B	2024 1st technical training on feed safety inspection [on-line]	JAPAN	50
A	Regional Seminar for WOAH National Focal Points for Veterinary Laboratories	Brunei Darussalam, Sri Lanka, Federated States of Micronesia, U.S., Chinese Taipei, Ukraine, China, Japan	13
C	2024 2nd technical training on feed safety inspection	JAPAN	4
B	Online course on obtaining feed manufacturing manager qualification. [on-line]	JAPAN	109
B	Online Seminar of Good Manufacturing Practice(GMP) for feed [on-line]	JAPAN	763
B	Legal framework for pet food safety management and information provision in Japan [on-line]	Korea	20

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

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National/International	Title of event	Co-organiser	Date	Location	No. Participants
Nationally	ISO/TC34/SC9 National Countermeasures Committee	Japan Food Research Laboratories	2024-11-06	Tokyo, Japan	7
Nationally	50th Anniversary International Symposium and the 91st Regular Meeting of Japanese Society of Mycotoxicology	Japanese Society of Mycotoxicology	2024-08-26	Tochigi, Japan	118
Nationally	47th Special Committee on Pesticide Residue Analysis	Pesticide Science Society of Japan	2024-11-11	Tokushima, Japan	150

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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YAMAGAMI Y., ASAO M., TAKAHASHI A., HASHIMOTO Y., OKUYAMA N., ARAI E., ARIHARA W., MASUI R. and SHIMAZAKI Y. (2023) Prevalence and antimicrobial resistance of Enterococcus spp. isolated from animal feed in Japan, Frontiers in Veterinary Science, 10.
POUNGPONG K., MANEEBOON T., ARAI W., AOYAMA K., FURUKAWA T., TODORIKI S., YABE K., BUNCHASAK C., KUSHIRO M. (2024) Occurrence evaluation of aflatoxigenic Aspergilli in Thai corn using dichlorvos-ammonia and whole-agar extraction methods, Japan Agricultural Research Quarterly, 58(2), 83-91.

b) International conferences:

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Introduction to Feed regulation in Japan and tour of test facilities, Regional Workshop Seminar for WOAH National Focal Points for Veterinary Laboratories, Jul. 17th

c) National conferences:

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YAMAGAMI Y., NOMURA M., AOYAMA K. Survey of trichothecene mycotoxin contamination in animal feed in Japan, 50th Anniversary International Symposium and the 91st Regular Meeting of Japanese Society of Mycotoxicology, Aug. 26th-27th.
KATO K., KUWABARA M., FUNAKI N. Interlaboratory study of simultaneous determination method of diquat and paraquat in feed by LC-MS/MS, 47th Special Committee on Pesticide Residue Analysis, Nov.11th-12th.
WAKAMIYA Y., YAMASHITA N., YOKOTA N., NAGAKUBO S., SAKAI T., OKUTOMI Y., Interlaboratory study of determination method of thiofanate in feed by LC-MS/MS, 47th Special Committee on Pesticide Residue Analysis, Nov.11th-12th.

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

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Research Report of Animal Feed No. 49 has been posted on FAMIC website.

http://www.famic.go.jp/ffis/feed/rraf/rraf_49.html
FAMIC's WOAH-CC website
http://www.famic.go.jp/ffis/woah/indexe.html
Summary of Country Report 2023 [Laboratory Network on Animal Feed safety in Asia and Pacific]
http://www.famic.go.jp/ffis/woah/obj/country%20_report2023.pdf

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
FAMIC have done to develop and improve analytical methods of feed. Updated methods are as follows.
Development of Simultaneous Determination Method of Diquat and Paraquat in Feed by LC-MS/MS
Development of Simultaneous Determination Method of Thiophanate and Other Pesticide in Feed by LC-MS/MS
FAMIC asked each member of the Lab Network to report on the status of feed inspection in each country.
We compiled the reports we requested last year from participating countries in the Laboratory Network regarding their feed inspection status and shared the results with them. The results were also published on our website.

12. Additional comments regarding your report:
FAMIC's main operations are analysis and inspection of animal feed. We also develop and improve analytical methods of animal feed in consultation with the Ministry of Agriculture, Forestry and Fisheries (MAFF). The developed and improved analytical methods are reviewed by experts in various fields in Japan. The analytical methods which have passed the expert review are reported to the MAFF. And then, the analytical methods are published as Japanese official methods and their English versions are posted on the FAMIC website.