WOAH Reference Laboratory Reports Activities 2023

Activities in 2023

This report has been submitted : 11 juin 2024 13:28

Laboratory Information

Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	American foulbrood (infection of honey bees with Paenibacillus larvae)
Address of laboratory:	66 Ward Street, Wallaceville, Upper Hutt 5018, NEW ZEALAND
Tel.:	+6448945600
E-mail address:	richard.hall@mpi.govt.nz
Website:	https://www.mpi.govt.nz/science/laboratories/national-animal-health-laboratory/
Name (including Title) of Head of Laboratory (Responsible Official):	Dr Joseph O'Keefe, Animal Health Laboratory Manager
Name (including Title and Position) of WOAH Reference Expert:	Dr Richard Hall, Principal Scientist
Which of the following defines your laboratory? Check all that apply:	Governmental

TOR1: DIAGNOSTIC METHODS

1. Did your laboratory perform diagnostic tests for the specified disease/topic for purposes such as disease diagnosis, screening of animals for export, surveillance, etc.? (Not for quality control, proficiency testing or staff training)

Yes

Diagnostic Test	Indicated in WOAH Manual (Yes/No)	Total number of test performed last year	
Indirect diagnostic tests		Nationally	Internationally
Direct diagnostic tests		Nationally	Internationally
Real-time qPCR		16	78
Microbial Culture		5	0

TOR2: REFERENCE MATERIAL

2. Did your laboratory produce or supply imported standard reference reagents officially recognised by WOAH?

No

3. Did your laboratory supply standard reference reagents (nonWOAH-approved) and/or other diagnostic reagents to WOAH Members?

No

4. Did your laboratory produce vaccines?

Not applicable

5. Did your laboratory supply vaccines to WOAH Members?

Not applicable

TOR3: NEW PROCEDURES

6. Did your laboratory develop new diagnostic methods for the designated pathogen or disease?

No

7. Did your laboratory validate diagnostic methods according to WOAH Standards for the designated pathogen or disease?

No

8. Did your laboratory develop new vaccines for the designated pathogen or disease?

No

9. Did your laboratory validate vaccines according to WOAH Standards for the designated pathogen or disease?

No

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOAH Members?

Yes

NAME OF WOAH MEMBER COUNTRY SEEKING ASSISTANCE	DATE	WHICH DIAGNOSTIC TEST USED	NO. SAMPLES RECEIVED FOR PROVISION OF DIAGNOSTIC SUPPORT	NO. SAMPLES RECEIVED FOR PROVISION OF CONFIRMATORY DIAGNOSES
FRANCE - WALLIS AND FUTUNA (ISLANDS)	2023-03-30	Realtime qPCR for Paenibacillus larvae	78	0

11. Did your laboratory provide expert advice in technical consultancies on the request of an WOAH Member?

Yes

NAME OF THE WOAH MEMBER COUNTRY RECEIVING A TECHNICAL CONSULTANCY	PURPOSE	HOW THE ADVICE WAS PROVIDED
NEW CALEDONIA	Guidance in regard to qPCR testing for Paenibacillus larvae	Email and phone calls

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

Yes

Title of the study	Duration	PURPOSE OF THE STUDY	PARTNERS (INSTITUTIONS)	WOAH MEMBER COUNTRIES INVOLVED OTHER THAN YOUR COUNTRY
Draft genomes of Paenibacillus larvae isolated from honeybee colonies (Apis mellifera) in Fiji	Two years	To determine genome sequences of Paenibacillus larvae isolates occurring in Fiji	Animal Health Laboratory, Biosecurity Authority Fiji, Koronivia, Suva, Fiji	FIJI

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

No

TOR6: EPIZOOLOGICAL DATA

14. Did your Laboratory collect epidemiological data relevant to international disease control?

No

15. Did your laboratory disseminate epidemiological data that had been processed and analysed?

Yes

IF THE ANSWER IS YES, PLEASE PROVIDE DETAILS OF THE DATA COLLECTED:
Sequenced genomes of n = 164 isolates of Paenibacillus larvae collected from 164 apiaires affected by American foulbrood in New Zealand; producing whole genome sequence data and multi-locus sequencing typing (MLST) made publicly-available at https://www.ncbi.nlm.nih.gov/bioproject/PRJNA949734 and also available at https://pubmlst.org/organisms/paenibacillus-larvae

16. What method of dissemination of information is most often used by your laboratory? (Indicate in the appropriate box the number by category and list the details in the box)

a) Articles published in peer-reviewed journals:

2

Pragert H, Hall R. (2023) Honey bee pest and disease survey of Rēkohu/Wharekauri/ Chatham Island, Rakiura/Stewart Island and Aotea/Great Barrier Island. Surveillance 50(2):4-6. https://www.sciquest.org.nz/browse/publications/article/172634

Binney BM, Pragert H, Foxwell J, Gias E, Birrell ML, Phiri BJ, Quinn O, Taylor M, Ha HJ and Hall RJ (2023) Genomic analysis of the population structure of Paenibacillus larvae in New Zealand. Front. Microbiol. 14:1161926. doi: 10.3389/fmicb.2023.1161926

b) International conferences:

0

c) National conferences:

1

4th New Zealand Honeybee Research Symposium. Pragert H, Hall R. 14 June 2023. "The MPI Honey Bee Collection: now welcoming applications from researchers" (a presentation on a national collection of honey bee samples that is available for research, including on American foulbrood).

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

1

Education extension material for beekeepers for the identification of clinical signs of American foulbrood in the honey bee colonies. https://www.mpi.govt.nz/dmsdocument/50047-American-foulbrood-Paenibacillus-larvae-Factsheet

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

17. Did your laboratory provide scientific and technical training to laboratory personnel from other WOAH Members?

Yes

a) Technical visit : 2

b) Seminars : 0

c) Hands-on training courses: 0

d) Internships (>1 month) 0

Type of technical training provided (a, b, c or d)	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
A	FIJI	3
A	CANADA	1

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories	Schedule to CERTIFICATE OF ACCREDITATION: for conformance to ISO/IEC 17025 General requirements for the competence of testing and calibration	Certificate of Accreditation AHL Current.pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Microbiology 1.02 Diagnostic Tests, Veterinary (f) Microbiology - GENERAL BACTERIOLOGY	International Accreditation New Zealand (IANZ) https://www.ianz.govt.nz/

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

Yes

Our laboratory has permission under Section 52 and 53 of the Biosecurity Act 1993 (New Zealand) to communicate, and propagate unwanted organisms. Paenibacillus larvae (the causative agent of American foulbrood) is officially listed as an unwanted organism in New Zealand, and our processes and procedures for handling P. larvae are in adherence with the s52/53 permission. Our laboratory operates under, and is audited to the Australia/New Zealand Standard AS/NZS 2243.3:2002 Safety in Laboratories. Part 3: Microbiological Aspects and Containment Facilities.

TOR9: SCIENTIFIC MEETINGS

21. Did your laboratory organise scientific meetings related to the pathogen in question on behalf of WOAH?

No

22. Did your laboratory participate in scientific meetings related to the pathogen in question on behalf of WOAH?

No

TOR10: NETWORK WITH WOAH REFERENCE LABORATORIES

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

Yes

24. Do you network (collaborate or share information) with other WOAH Reference Laboratories designated for the same pathogen?

Yes

NETWORK/DISEASE	ROLE OF YOUR LABORATORY (PARTICIPANT, ORGANISER, ETC)	NO. PARTICIPANTS	PARTICIPATING WOAH REF. LABS
American foulbrood (infection of honey bees with Paenibacillus larvae)	Participant; discussion with experts from the other WOAH Reference Laboratories for American foulbrood (infection of honey bees with Paenibacillus larvae) on 18 December 2023	3	WOAH Reference Laboratories for American Foulbrood at: ANSES (French Agency for Food, Environmental and Occupational Health & Safety) ALSO, National Reference Laboratory for Bee Diseases, Friedrich-Loeffer-Institut, Germany.

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen?

No

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?

No

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAH Reference Laboratories for the same pathogen?

No

TOR12: EXPERT CONSULTANTS

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

Yes

KIND OF CONSULTANCY	Location	SUBJECT (FACULTATIVE)
Specific Technical Advice	Online meetings	Provided guidance to WOAH Science Department, and International Standards and Science, concerning a request about a therapeutic measure with relevance to the WOAH Terrestrial Manual chapter 3.2.2. American foulbrood of honey bees (infection of honey bees with Paenibacillus larvae)

29. Additional comments regarding your report:

Yes

Our WOAH Reference Laboratory designation was made in June 2023.