World Organisation for Animal Health

Debbie Eagles - - AUSTRALIA

WOAH Reference Laboratory Reports Activities 2024

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LABORATORY INFORMATION

***Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:**	Bluetongue Virus
***Address of laboratory:**	5 Portarlington Road East Geelong Victoria 3219 Australia
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***E-mail address:**	debbie.eagles@csiro.au
Website:	https://www.csiro.au/en/about/facilities-collections/acdp
***Name (including Title) of Head of Laboratory (Responsible Official):**	Dr Debbie Eagles, Director, Australian Centre of Disease Preparedness
***Name (including Title and Position) of WOAH Reference Expert:**	Dr Debbie Eagles, Director, Australian Centre of Disease Preparedness
***Which of the following defines your laboratory? Check all that apply:**	Governmental Research agency

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
cELISA	Yes	249	21
sELISA	No	10	0

Serum Neutralisation Test	Yes	240	14
Direct diagnostic tests		Nationally	Internationally
Real-time PCR	Yes	321	14
Isolation	Yes	21	0
Isolate typing by VNT	Yes	11	0
Capillary Sequencing	Yes	268	8
Whole genome sequencing	Yes	38	4

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?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOAH Member Countries	Country of recipients
Network Quality Controls	PCR	Producer and Provider	10ml	0	1	AUSTRALIA,
Network Quality Controls	ELISA	Producer and Provider	5ml	0	1	AUSTRALIA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOAH Members?

No

TOR3: NEW PROCEDURES

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

Yes

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

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
sELISA for detection of antibodies	Di Rubbo et al, 2024, Challenges of BTV-group specific serology testing: no one test fits all in Viruses 16 (12)

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
TIMOR-LESTE	2024-07-01	Real-time PCR, ELISA, Serum Neutralisation Test, Capillary Sequencing, Whole Genome Sequencing	28	0
SOLOMON (ISLANDS)	2024-02-01	cELISA	7	0

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

No

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

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

No

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?

Yes

If the answer is yes, please provide details of the data collected:
Diagnostic testing and epidemiological data from national sentinel herd surveillance (as conducted under the National Arbovirus Monitoring Program). Diagnostic Testing includes serology, virus isolation and typing, sequencing and bioinformatics.

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:
Reports on sentinel herd surveillance are shared with member of National Arbovirus Monitoring Program; collated into an Annual Report (See 16d) and included as relevant in publications (16a).

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:

1
Di Rubbo, A.; Agnihotri, K.; Bowden, T.R.; Giles, M.; Newberry, K.; Peck, G.R.; Shiell, B.J.; Zamanipereshkaft, M.; White, J.R. Challenges of BTV-Group Specific Serology Testing: No One Test Fits All. Viruses 2024, 16, 1810. https://doi.org/10.3390/v16121810

b) International conferences:

1
Ahmed, Asif. Chromosome level genome of Bluetongue virus vector, Culicoides brevitarsis. Genetics Society of Australasia Conference

c) National conferences:

0

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

1
National Animal Health Monitoring Program Annual Report, available at https://animalhealthaustralia.com.au/

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 : 63

b) Seminars : 0

c) Hands-on training courses: 78

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	INDONESIA	23
C	INDONESIA	38
A	INDONESIA	15
C	PAPUA NEW GUINEA	12
A	PAPUA NEW GUINEA	25

C	PAPUA NEW GUINEA	28

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO 9001-2015	file attached	BSI ISO9001 QMS 605099 - 001.pdf
ISO 14001-2015	file attached	BSI ISO14001 EMS 605098 - 001 (1).pdf
ISO 17025-2017	file attached	NATA ISO 17025 APR 2024(1).pdf
17043-2010	file attached	NATA ISO 17043 NOV 2022(1).pdf

19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Genotyping; PCR - Quantitative (qPCR); Polymerase chain reaction (PCR), Serum neutralisation, ELISA, embryonated egg culture	NATA/ILAC

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

Yes

The laboratory has a dedicated Biorisk Management Group (18 Members) who provide specialist advice, monitor and improve Biosafety, Biosecurity and Biocontainment activities and perform annual testing and validation on Biocontainment systems. The team uses a biorisk management approach aligned with ISO 35001 to implement a system of managing biosafety and biosecurity across a wide array of biological hazards. The Biorisk Management Group develop and implement standard operating procedures and institutional policies that set the framework for the handling of biological materials across ACDP and provide ultimate assurance that the laboratory activities pose negligible danger to Australia's agriculture or public health. Policies and procedures are contained in the annually reviewed ACDP Biorisk Manual consisting of various sections as follows. • Section 1 Administration • Section 2 PC2 Procedures and Policies • Section 3 PC3 Procedures and Policies • Section 4 PC4 Procedures and Policies • Section 5 Large Animal Facility (LAF) Procedures and Policies • Section 6 Personnel and Procedural Controls • Section 7 Transport and Storage of Biological Material • Section 8 Movement of Material, Equipment and Waste • Section 9 Engineering Procedures and Polices • Section 10 Microbiological Incident Response Procedures and Policies The ACDP biological risk management system has clear and unequivocal commitment by laboratory management, who ensure that roles, responsibilities, resources and authorities related to biological risk management are defined, documented, and communicated to those who manage, perform, and verify work associated with biological agents and toxins in the laboratory. The Biorisk Management Team are audited over 3 days every 6 months by an external security assessment team to provide an independent review of elements affecting ACDP's microbiological and physical security operations and to advise CSIRO senior executive management of any areas of concern or risk. Biosafety and biosecurity operations are also audited frequently by Australia's regulatory agencies, the Department of Agriculture, Fisheries and Forestry (DAFF), the Office of the Gene Technology Regulator (OGTR) and the Security Sensitive Biological Agents Regulatory Scheme (SSBA).

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?

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
WOAH Regional Workshop on Vector-Borne Diseases	2024-07-18	Tokyo	Speaker, co-organisor	Bluetongue virus in Australia, the region and globally

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
Bluetongue	Participant	3	All WOAH BTV reference labs - online (email) discussions and ad hoc meetings

25. Did you organise or participate in inter-laboratory proficiency tests with WOAH Reference Laboratories designated for the same pathogen during the past 2 years?

No

N/A

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 during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons1	**Role of your reference laboratory (organizer/participant)**	**No. participating laboratories**	**Name of the test**	**WOAH Member Countries**

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Molecular PCR detection of BTV as part of the Laboratories Emergency Animal Disease Diagnosis and Response (LEADDR) Network	Organiser and participant	9	ELISA and PCR	AUSTRALIA, NEW ZEALAND,

TOR12: EXPERT CONSULTANTS

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

Yes

Kind of consultancy	Location	Subject (facultative)
Review of chapters for diagnostic manual	Virtual	Range of diseases and specific technical chapters
Attendance at WOAH General Session	In person, Paris	General Session

29. Additional comments regarding your report: