

WOAH Reference Laboratory Reports Activities 2025

This report has been submitted: 30 janvier 2026 11:52

LABORATORY INFORMATION

*Name of disease (or topic) for which you are a designated WOAH Reference Laboratory:	Brucellosis (Brucella abortus, Brucella melitensis, Brucella suis)
*Address of laboratory:	Department of Bacteriology, APHA, Woodham Lane, Addlestone, Surrey, UNITED KINGDOM
*Tel:	+44-1932 35.76.10
*E-mail address:	Adrian.Whatmore@apha.gov.uk
Website:	www.apha.gov.uk
*Name (including Title) of Head of Laboratory (Responsible Official):	Dr Richard Lewis
*Name (including Title and Position) of WOAH Reference Expert:	Dr Adrian Whatmore, Head of Bacteriology
*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	
		Nationally	Internationally
Indirect diagnostic tests			
iELISA (serum)	Yes	3429	283
cELISA	Yes	10613	0
CFT	Yes	4018	1
RBT	Yes	4029	51
SAT	Yes	297	11
iELISA (milk)	Yes	29517	127
SAT (B. canis)	No	15917	3496
iELISA (B. canis)	No	14370	3178
Direct diagnostic tests			
Bacterial culture	Yes	2011	274
Real-time PCR	Yes	36	19
Bruce-ladder	Yes	2	17
SNP typing	Yes	1	0
MLST	Yes	194	

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			16
MLVA	Yes	194	16
Whole genome sequencing	No	194	16

TOR2: REFERENCE MATERIAL

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

Yes

Type of reagent available	Related diagnostic testing	Produced/ imported	Quantity supplied nationwide (ml, mg)	Quantity supplied at international level (ml, mg)	Name of beneficiary WOA?H Member Countries
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3. Did your laboratory supply standard reference reagents (nonWOA?H-approved) and/or other diagnostic reagents to WOA?H Members?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient WOA?H Member Countries	Country of recipients
Antigen	Complement Fixation Test	Produced	5000ml	1000ml	1	SWITZERLAND,
Antigen	Milk Ring Test	Produced	0	1000ml	1	FRANCE,
Antigen	Serum Agglutination Test	Produced	2000ml	8000ml	3	DENMARK, FRANCE, ISRAEL,
Positive antiserum	Various	Produced	21ml	36ml	10	BELGIUM, BOSNIA AND HERZEGOVINA, CHINESE TAIPEI, DENMARK, ECUADOR, PHILIPPINES, POLAND, SINGAPORE, SWEDEN, TURKEY,
Negative serum	Various	Produced	51ml	9ml	5	BOSNIA AND HERZEGOVINA, ECUADOR, POLAND, SINGAPORE, TURKEY,
DNA from type/reference strains	PCR (qPCR & multiplex)	Produced & provided	0	<1ml	1	TANZANIA,
Synthetic antigens	ELISA	Provided	0	<10mg	3	CHINA (PEOPLE'S REP. OF), SPAIN, TANZANIA,

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to WOA?H Members?

TOR3: NEW PROCEDURES

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

Yes

Name of the new test or diagnostic method developed	Description and References (Publication, website, etc.)
Active research program developing both new diagnostics (molecular/serological) and novel vaccine approaches.	Project reports (for Ministry funded work) or publications will be made available in due course.

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

No

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

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

TOR4: DIAGNOSTIC TESTING FACILITIES

10. Did your laboratory carry out diagnostic testing for other WOA Member?

Yes

Name of WOA 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
KENYA	2025-06-01	Bacterial culture	297	297
KENYA	2025-06-01	Whole genome sequencing	16	16

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

Yes

Name of the WOA Member Country receiving a technical consultancy	Purpose	How the advice was provided
TANZANIA	Advice for qPCR and multiplex diagnostic testing and quality assurance	Provision of standard operating procedures, review and guidance for existing procedures; remote troubleshooting and review of data; guidance on use of material provided.
TANZANIA	Development of synthetic antigen iELISA	Remote bi-monthly consultancy (in conjunction with University of Glasgow); analysis of data.
TURKEY	Use of serum controls for Rose Bengal Test	Provision of datasheets; guidance on standard operating procedures; remote troubleshooting.
INDONESIA	Advice on procurement of vaccine seed lots	Electronic

TOR5: COLLABORATIVE SCIENTIFIC AND TECHNICAL STUDIES

12. Did your laboratory participate in international scientific studies in collaboration with WOA 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
Role of Camels in the Transmission of Brucella spp and Middle East Respiratory Syndrome Coronavirus to Humans in Kenya.	4 years.	To protect human and animal health by describing and quantifying the transmission dynamics of Brucella spp and the Middle East Respiratory Syndrome Coronavirus (MERSCoV) and developing a robust brucellosis prevention and control model for Kenya.	Defence Threat Reduction Agency – USA; Washington State University; Kenyan Medical Research Institute (KEMRI).	KENYA UNITED STATES OF AMERICA
Supporting the Safe and Effective Control of Brucellosis in Africa.	3 years.	Capacity building	UK International Biological Security Programme (IBSP), veterinary and public health laboratories in Rwanda (University of Rwanda; Rwandan Agriculture Board) and Tanzania (Kilimanjaro Clinical Research Institute; Nelson Mandela African Institute of Science and Technology) , Penn State University (USA).	KENYA RWANDA TANZANIA UNITED STATES OF AMERICA

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

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:

Data on disease incidence in Kenyan livestock, using bacterial culture, serological and molecular tests; whole genome sequencing of Kenyan isolates for the purposes of molecular epidemiology; whole genome sequencing of (travel associated) *Brucella* sp. isolates from humans in the UK, for the purposes of molecular epidemiology;

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

No

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

Oketch, D., et al. (2025). "Design of a Prospective Human-Animal Cohort Study to Evaluate the Role of Camels and Other Livestock Species in the Transmission of Brucella spp. to Humans in Kenya." Int J Environ Res Public Health 22(12).

Rudolf I, Kejiková R, Kosoy M, Hubálek Z, Mravcová K, Šikutová S, Whatmore AM, Al Dahouk S. Brucella microti and Rodent-Borne Brucellosis: A Neglected Public Health Threat. Zoonoses Public Health. 2025 Feb;72(1):1-8.

b) International conferences:

7

Overview of global and regional Brucellosis situation (Oral).

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Control of animal and zoonotic diseases in the Gulf Cooperation Council States, Kuwait City, 16th-19th June 2025.

Brucella: Laboratory needs and challenges. (Oral). Adrian Whatmore.

Control of animal and zoonotic diseases in the Gulf Cooperation Council States, Kuwait City, 16th-19th June 2025.

Molecular and serological detection and characterisation of Brucella species in Tanzanian livestock (Oral)

Brucellosis 2025 International Research Conference, including the 77th Annual Brucellosis Research Conference (4th – 7th November 2025), San Jose, Costa Rica

Roland Ashford¹, Tito Kibona², Nelson Amani³, Ephrasia Hugh³, Elizabeth Kasagama³, Victor Mosha³, Theonest Ndyetabura³, Rigobert Tarimo³, Ryan Carter⁴, John McGiven¹, Anna Haughey¹, Blandina Mmbaga³, Gabriel Shirima⁵, Emanuel Swai⁶, Dan Haydon⁴, Venance Maro⁷, Rudovick Kazwala⁸, John A. Crump⁹, Adrian Whatmore¹, Sarah Cleaveland⁴, Jo Halliday⁴

¹ Animal and Plant Health Agency, Surrey, UK

² Global Animal Health Tanzania, Arusha, United Republic of Tanzania

³ Kilimanjaro Clinical Research Institute, Moshi, Tanzania

⁴ School of Biodiversity, One Health and Veterinary Medicine, University of Glasgow, Glasgow, UK

⁵ Nelson Mandela African Institution of Science and Technology, Arusha, Tanzania

⁶ Ministry of Livestock and Fisheries, Dodoma, Tanzania

⁷ Kilimanjaro Christian Medical Centre, Moshi, Tanzania

⁸ Sokoine University of Agriculture, Morogoro, Tanzania

⁹ Centre for International Health, University of Otago, Dunedin, New Zealand

Maintaining GB's Brucellosis-Free Status: The Role of Bulk Milk Surveillance (Poster)

Brucellosis 2025 International Research Conference, including the 77th Annual Brucellosis Research Conference (4th – 7th November 2025), San Jose, Costa Rica

Andrew J Lunn and Karen Hinchliffe

Surveillance and Laboratory Services Department, Animal & Plant Health Agency (APHA), Weybridge, Surrey, United Kingdom, KT15 3NB

Brucella canis in the UK: A case study of an outbreak of *Brucella canis* at a breeding premises (Poster)

Brucellosis 2025 International Research Conference, including the 77th Annual Brucellosis Research Conference (4th – 7th November 2025), San Jose, Costa Rica

Jodie Withall¹, Rachel Peacock¹, Anna Haughey¹, Amanda Dainty¹, Andrew Taylor¹, Andrew Frost², Alessandro Gerada³, Steve Wyllie², Jessica Jervis³, Avril O’Gorman⁵, Gemma Roberts⁶, Adrian Whatmore¹, Roland Ashford¹, Emi N. Barker⁷, John McGiven⁴.

¹Department of Bacteriology, Animal and Plant Health Agency, Weybridge, UK;

²One Health, Animal, Health and Welfare, Animal and Plant Health Agency, Weybridge, UK;

³Brucella Reference Unit, Liverpool Clinical Laboratories, Liverpool, UK;

⁴Department of International Development, Innovation and Business, Animal and Plant Health Agency, Weybridge, UK;

⁵Health Protection Team, Public Health Wales, Flintshire, UK;

⁶Health Protection Team, Public Health Wales, Cardiff, UK;

⁷Langford Vets, University of Bristol, Langford, UK

Serodiagnostics to detect vaccinated animals applied to RB51 vaccinated cattle from Alentejo region, Portugal (Poster)

Brucellosis 2025 International Research Conference, including the 77th Annual Brucellosis Research Conference (4th – 7th November 2025), San Jose, Costa Rica

Jodie Withall¹, Anna Haughey¹, Gemma Cheung², Andrew Taylor¹, Roland Ashford¹, Adrian Whatmore¹, Ana Cristina Ferreira³, John McGiven².

¹Department of Bacteriology, Animal and Plant Health Agency, Weybridge, UK; ²Department of International Development, Innovation and Business, Animal and Plant Health Agency, Weybridge, UK;

³Instituto Nacional de Investigação Agrária e Veterinária, I.P, Portugal.

The application of different *Brucella* lipopolysaccharide based antigens for the serodiagnosis of brucellosis in pigs (Poster)

Brucellosis 2025 International Research Conference, including the 77th Annual Brucellosis Research Conference (4th – 7th November 2025), San Jose, Costa Rica

Jodie Withall¹, Laurence Howells¹, Lucy Duncombe¹, Gemma Cheung², Andrew Taylor¹, Roland Ashford¹, Claire Ponsart², Acacia Ferreira Vicente², Ana Cristina Ferreira⁴, Adrian Whatmore¹, John McGiven².

¹WOAH Reference Laboratory for Brucellosis, Department of Bacteriology, Animal and Plant Health Agency, Weybridge, UK; ²Department of International Development, Innovation and Business, Animal and Plant Health Agency, Weybridge, UK; ³WOAH/EU & National Reference Laboratory for Animal Brucellosis, ANSES/Paris-Est University, 94700 Maisons-Alfort, France. ⁴Instituto Nacional de Investigação Agrária e Veterinária, I.P, Portugal.

c) National conferences:

¹
Brucella canis (Oral) Roland Ashford.
British Small Animal Veterinary Association (BSAVA) Congress (20th-22nd March, 2025), Manchester, UK

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

²
Curation of *Brucella multilocus* sequencing typing (MLST) international database. Tool originally developed by APHA and now very widely used globally to type *Brucella*. Curated by Adrian Whatmore/Roland Ashford. <https://pubmlst.org/brucella/>

Adrian Whatmore also a curator of MLVA database (alternative typing tool best suited to local epidemiology). <http://mlva.i2bc.paris-saclay.fr/brucella/>

TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

No

TOR8: QUALITY ASSURANCE

18. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)	
ISO17025:2017	APHA UKAS ISO17025 Certificate dec 25.pdf	APHA UKAS ISO17025 Certificate dec 25.pdf

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ISO9001:2015	ANIMAL PLANT HEALTH AGENCY - Certificate UK013916 - ISO 9001 - exp. 25-07-2026.pdf	ANIMAL PLANT HEALTH AGENCY - Certificate UK013916 - ISO 9001 - exp. 25-07-2026.pdf
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19. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
iELISA Serum	UKAS (ISO17025-2017)
cELISA	UKAS (ISO17025-2017)
CFT	UKAS (ISO17025-2017)
RBT	UKAS (ISO17025-2017)
SAT	UKAS (ISO17025-2017)
iELISA (milk)	UKAS (ISO17025-2017)
RSA (B. canis)	UKAS (ISO17025-2017)
SAT (B. canis)	UKAS (ISO17025-2017)
Bacterial isolation	UKAS (ISO17025-2017)
Phenotypic characterisation (biotyping)	UKAS (ISO17025-2017)
Real time PCR	UKAS (ISO17025-2017)

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

Yes

APHA complies with UK Health & Safety Executive (HSE) working standards and with current UK regulations around human pathogens (ACDP), animal pathogens (SAPO) and anti-terrorism legislation (ACTSA).

TOR9: SCIENTIFIC MEETINGS

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

No

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

Yes

Title of event	Date	location	Role (speaker, presenting poster, short communications)	Title of the work presented
Control of animal and zoonotic diseases in the Gulf Cooperation Council States	2025-06-16	Kuwait City	Speaker.	(1) Overview of global and regional Brucellosis situation (2) Brucella: Laboratory needs and challenges.

TOR10: NETWORK WITH WOA?H REFERENCE LABORATORIES

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

Yes

24. Are you a member of a network of WOA?H Reference Laboratories designated for the same pathogen?

No

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

Yes

Purpose of the proficiency test:	Role of your Reference Laboratory (organiser/ participant)	No. participating Laboratories	Participating WOA?H Ref. Labs/ organising WOA?H Ref Lab
Bovine brucellosis serology	Participant	Not known	ANSES (organising laboratory)
VETQAS PT0015 B. abortus CFT/SAT	Organiser and participant	4	APHA, UK ANSES, France KVI, Israel CVRL, UAE
VETQAS PT0016 B. abortus ELISA	Organiser and participant	5	APHA, UK ANSES, France IZS, Italy QIA, Rep of Korea CVRL, UAE
VETQAS PT0018 B. abortus milk iELISA	Organiser and participant	2	APHA, UK. CVRL, UAE
VETQAS PT0019 B. abortus Milk Ring Test	Organiser	1	CVRL, UAE

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VETQAS PT0020 B. abortus Rose Bengal Test	Organiser and participant	5	APHA, UK ANSES, France KVI, Israel QIA, KOREA CVRL, UAE
VETQAS PT0022 B. canis	Organiser and participant	4	APHA, UK IZS, Italy KVI Israel QIA, Korea
VETQAS PT0025 B. abortus Stain Slide and ID	Organiser and participant	2	APHA, UK KVI, Israel
VETQAS PT0187 Brucella PCR	Organiser and participant	3	APHA, UK KVI, Israel CVRL, UAE

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

Yes

Title of the project or contract	Scope	Name(s) of relevant WOAHP Reference Laboratories
Brucellosis ad hoc discussions	Organiser	Brucellosis Laboratory, Bacteriology Division, Animal and Plant Quarantine Agency (QIA), Republic of Korea

TOR11: OTHER INTERLABORATORY PROFICIENCY TESTING

27. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than WOAHP Reference Laboratories for the same pathogen during the past 2 years?

Yes

Purpose for inter-laboratory test comparisons ¹	Role of your reference laboratory (organizer/participant)	No. participating laboratories	Name of the test	WOAHP Member Countries
VETQAS PT0015 - Assess laboratory capability for B. abortus CFT/SAT	Organiser and participant	22	CFT/SAT	
VETQAS PT0016 Assess laboratory capability for B. abortus ELISA	Organiser and participant	19	B. abortus ELISA	
VETQAS PT0018 Assess laboratory capability for B. abortus milk iELISA	Organiser and participant	5	B. abortus milk iELISA	
VETQAS PT0019 Assess laboratory capability for B. abortus Milk Ring Test	Organiser	3	B. abortus Milk Ring Test	
VETQAS PT0020 Assess laboratory capability for B. abortus Rose Bengal Test	Organiser and participant	34	B. abortus Rose Bengal Test	
VETQAS PT0022 Assess laboratory capability for B. canis serology	Organiser and participant	7	B. canis serology	
VETQAS PT0025 Assess laboratory capability for B. abortus Stain Slide and ID	Organiser and participant	3	B. abortus Stain Slide and ID	
VETQAS PT0187 Assess laboratory capability for Brucella PCR	Organiser and participant	13	Brucella PCR	

TOR12: EXPERT CONSULTANTS

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

No

29. Additional comments regarding your report:

No