

OIE Reference Laboratory Reports Activities

Activities in 2019

This report has been submitted : 2020-01-07 10:39:38

Name of disease (or topic) for which you are a designated OIE Reference Laboratory:	African swine fever
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Name (including Title) of Head of Laboratory (Responsible Official):	Dr Bryan Charleston
Name (including Title and Position) of OIE Reference Expert:	Dr Linda Dixon Head of African Swine Fever Virus Group
Which of the following defines your laboratory? Check all that apply:	Research

ToR 1: To use, promote and disseminate diagnostic methods validated according to OIE Standards

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 OIE Manual (Yes/No)	Total number of test performed last year	
		Nationally	Internationally
Indirect diagnostic tests		Nationally	Internationally
ELISA	Yes	3	0
Direct diagnostic tests		Nationally	Internationally
Real-time PCR	Yes	32	40
Virus isolation	Yes	0	11
VP72 sequencing	Yes	0	4

ToR 2: To develop reference material in accordance with OIE requirements, and implement and promote the application of OIE Standards. To store and distribute to national laboratories biological reference products and any other reagents used in the diagnosis and control of the designated pathogens or disease.

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

No

3. Did your laboratory supply standard reference reagents (non OIE-approved) and/or other diagnostic reagents to OIE Member Countries?

Yes

Type of reagent available	Related diagnostic test	Produced/ provide	Amount supplied nationally (ml, mg)	Amount supplied internationally (ml, mg)	No. of recipient OIE Member Countries	Region of recipients
Georgia 2007/01 DNA	PCR	Provide	0	500ul	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East
ASFV antiserum	ELISA	Provide	2ml	20ml	2	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
African Swine Fever virus	Diagnostics	Provide	0	2ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East
African Swine Fever virus Georgia 2007/01	Diagnostics	Provide	0	2ml	1	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East

4. Did your laboratory produce vaccines?

No

5. Did your laboratory supply vaccines to OIE Member Countries?

No

ToR 3: To develop, standardise and validate, according to OIE Standards, new procedures for diagnosis and control of the designated pathogens or diseases

6. Did your laboratory develop new diagnostic methods validated according to OIE Standards for the designated pathogen or disease?

No

7. Did your laboratory develop new vaccines according to OIE Standards for the designated pathogen or disease?

No

ToR 4: To provide diagnostic testing facilities, and, where appropriate, scientific and technical advice on disease control measures to OIE Member Countries

8. Did your laboratory carry out diagnostic testing for other OIE Member Countries?

Yes

Name of OIE Member Country seeking assistance	Date (month)	No. samples received for provision of diagnostic support	No. samples received for provision of confirmatory diagnoses
MONGOLIA	January	0	10
PHILIPPINES	August	0	20
CHINA (PEOPLE'S REP. OF)	May	0	2
CHINA (PEOPLE'S REP. OF)	June	0	3
CHINA (PEOPLE'S REP. OF)	September	0	3

9. Did your laboratory provide expert advice in technical consultancies on the request of an OIE Member Country?

Yes

Name of the OIE Member Country receiving a technical consultancy	Purpose	How the advice was provided
CHINA (PEOPLE'S REP. OF)	ASFV control, diagnosis, surveillance etc	Face to face both in UK and in China, E mail
IRELAND	Diagnostics - meat testing	E mail
KOREA (REP. OF)	Test validation	E mail
NORTH MACEDONIA (REP. OF)	Diagnostics test selection	E mail, face to face at NRL meetings
PHILIPPINES	Diagnostics, disease confirmation	E mail
VIETNAM	Diagnostics, disease confirmation	E mail
ROMANIA	ASFV epidemiology, diagnostics, surveillance, control	Face to face
CHINESE TAIPEI	ASFV control, diagnosis, surveillance etc	Face to face in Chinese taipei, E mail

ToR 5: To carry out and/or coordinate scientific and technical studies in collaboration with other laboratories, centres or organisations

10. Did your laboratory participate in international scientific studies in collaboration with OIE Member Countries other than the own?

Yes

Title of the study	Duration	Purpose of the study	Partners (Institutions)	OIE Member Countries involved other than your country
Annual report IAEA Research Contract: CRP32032 Veterinary Diagnostic Laboratory Network (VETLAB Network) to prevent and control transboundary animal diseases (TADs)	5 years	Develop validated reagents, build capacity for diagnosis	ANSES, CIRAD, IAEA, CSIRO, SENASA, Pirbright, LANAVET, CVI, LANADA, UKIM, ONSSA, NAHDIC	ARGENTINA AUSTRALIA AUSTRIA CAMEROON COTE D'IVOIRE CROATIA ETHIOPIA FRANCE MOROCCO NORTH MACEDONIA (REP. OF) SUDAN
Addressing the dual emerging threats of African Swine Fever and Lumpy Skin Disease in Europe (DEFEND)	5 years	To control the growing LSD and ASF epidemics in Europe and neighbouring countries by understanding the drivers of LSDV and ASFV emergence, and by generating research outputs which underpin novel diagnostic tools and vaccines, and authenticate appropriate and rapid responses by decision-makers.	The Pirbright Institute, Sciensano, The Friedrich Loeffler Institute (FLI) Sveriges Lantbruksuniversitet (SLU) Istituto Zooprofilattico Sperimentale Della Lombardia ed Emilia Romagna (IZSLER) Agricultural Research Council (ARC) Istituto Universitario Europeo (MPC) Veterinarians san Frontieres International (SIVtro VSF ITALIA) Kimron Veterinary Institute (KIMRON) ZOETIS IDVet Klifovet AG University of Pretoria (UP) Canadian Food Inspection Agency (CFIA) CSIRO Ministry of Rural Development and Food (MINAGRIC) Athens Veterinary Centre (AVC) The Jenner Institute for Vaccine Research, University of Oxford (UOXF) State Food and Veterinary Service (SFVS) Republican Veterinary Laboratory (RVL) FGI Federal Centre for Animal Health (FGI ARRIA) Ministry of Agriculture, Rural Development and Water Management (MINA) Diagnostic Veterinary Laboratory (DVL) Institute for Diagnosis and Animal Health (IDAH) Central Veterinary Authority (ANSVSA) Bulgarian Food Safety Agency (BFSA) Ministry of Agriculture and Food (MAF) SS. Cyril and Methodius University Skopje (SSU) Istanbul University (IU) Ministry of Food Agriculture and Livestock (MFAL) Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA) Veterinary Specialized institute Kraljevo (VSI-K) Scientific Veterinary Institute Novi Sad (NIV-NS)	ALBANIA AUSTRALIA AZERBAIJAN BELGIUM BULGARIA CANADA FRANCE GERMANY GREECE ISRAEL ITALY LITHUANIA MONTENEGRO NORTH MACEDONIA (REP. OF) ROMANIA RUSSIA SERBIA SOUTH AFRICA SPAIN SWEDEN TURKEY UNITED KINGDOM

ToR 6: To collect, process, analyse, publish and disseminate epizootiological data relevant to the designated pathogens or diseases

11. Did your Laboratory collect epizootiological data relevant to international disease control?

No

If the answer is no, please provide a brief explanation of the situation:
We support other countries to collate and disseminate

12. Did your laboratory disseminate epizootiological data that had been processed and analysed?

No

If the answer is no, please provide a brief explanation of the situation:
as above

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

a) Articles published in peer-reviewed journals: 8

1: Dixon LK, Stahl K, Jori F, Vial L, Pfeiffer DU. African Swine Fever Epidemiology and Control. Annu Rev Anim Biosci. 2019 Nov 19. doi: 10.1146/annurev-animal-021419-083741. [Epub ahead of print] PubMed PMID: 31743062.

2: Aira C, Ruiz T, Dixon L, Blome S, Rueda P, Sastre P. Bead-Based Multiplex Assay for the Simultaneous Detection of Antibodies to African Swine Fever Virus and Classical Swine Fever Virus. Front Vet Sci. 2019 Sep 13;6:306. doi: 10.3389/fvets.2019.00306. eCollection 2019. PubMed PMID: 31572739; PubMed Central PMCID: PMC6753221.

3: Forth JH, Forth LF, King J, Groza O, Hübner A, Olesen AS, Höper D, Dixon LK, Netherton CL, Rasmussen TB, Blome S, Pohlmann A, Beer M. A Deep-Sequencing Workflow for the Fast and Efficient Generation of High-Quality African Swine Fever Virus Whole-Genome Sequences. Viruses. 2019 Sep 11;11(9). pii: E846. doi: 10.3390/v11090846. PubMed PMID: 31514438; PubMed Central PMCID: PMC6783980.

4: Netherton CL, Goatley LC, Reis AL, Portugal R, Nash RH, Morgan SB, Gault L, Nieto R, Norlin V, Gallardo C, Ho CS, Sánchez-Cordón PJ, Taylor G, Dixon LK. Identification and Immunogenicity of African Swine Fever Virus Antigens. Front Immunol. 2019 Jun 19;10:1318. doi: 10.3389/fimmu.2019.01318. eCollection 2019. PubMed PMID: 31275307; PubMed Central PMCID: PMC6593957.

5: Dixon LK, Islam M, Nash R, Reis AL. African swine fever virus evasion of host defences. Virus Res. 2019 Jun;266:25-33. doi: 10.1016/j.virusres.2019.04.002. Epub 2019 Apr 5. Review. PubMed PMID: 30959069; PubMed Central PMCID: PMC6505686.

6: Netherton CL, Connell S, Benfield CTO, Dixon LK. The Genetics of Life and Death: Virus-Host Interactions Underpinning Resistance to African Swine Fever, a Viral Hemorrhagic Disease. *Front Genet.* 2019 May 3;10:402. doi: 10.3389/fgene.2019.00402. eCollection 2019. Review. PubMed PMID: 31130984; PubMed Central PMCID: PMC6509158.

7: Mulumba-Mfumum LK, Saegerman C, Dixon LK, Madimba KC, Kazadi E, Mukalakata NT, Oura CAL, Chenais E, Masembe C, Ståhl K, Thiry E, Penrith ML. African swine fever: Update on Eastern, Central and Southern Africa. *Transbound Emerg Dis.* 2019 Jul;66(4):1462-1480. doi: 10.1111/tbed.13187. Epub 2019 Apr 19. Review. PubMed PMID: 30920725.

8: Dixon LK, Sun H, Roberts H. African swine fever. *Antiviral Res.* 2019 May;165:34-41. doi: 10.1016/j.antiviral.2019.02.018. Epub 2019 Mar 2. Review. PubMed PMID: 30836106.

b) International conferences: 2

Chinese Swine Science Conference Qingdao October 2019

Chinese Animal Breeding and Genetics Conference Guangzhou. December 2019

c) National conferences: 0

d) Other:

(Provide website address or link to appropriate information) 0

**ToR 7: To provide scientific and technical training for personnel from OIE Member Countries
To recommend the prescribed and alternative tests or vaccines as OIE Standards**

14. Did your laboratory provide scientific and technical training to laboratory personnel from other OIE Member Countries?

Yes

a) Technical visits: 2

b) Seminars: 0

c) Hands-on training courses: 3

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
c	China	2
c	New Zealand	1
a	Sweden	1
a	Germany	1

ToR 8: To maintain a system of quality assurance, biosafety and biosecurity relevant for the pathogen and the disease concerned

15. Does your laboratory have a Quality Management System?

Yes

Quality management system adopted	Certificate scan (PDF, JPG, PNG format)
ISO/IEC 17025	UKAS scope.pdf

16. Is your quality management system accredited?

Yes

Test for which your laboratory is accredited	Accreditation body
Real-time PCR	UKAS
Antigen ELISA	UKAS
Antibody ELISA	UKAS

17. Does your laboratory maintain a “biorisk management system” for the pathogen and the disease concerned?

Yes

(See Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 1.1.4)

ToR 9: To organise and participate in scientific meetings on behalf of the OIE

18. Did your laboratory organise scientific meetings on behalf of the OIE?

No

19. Did your laboratory participate in scientific meetings on behalf of the OIE?

Yes

Title of event	Date (mm/yy)	Location	Role (speaker, presenting poster, short communications)	Title of the work presented
International symposium on prevention and control of ASFV	03/19	Chinese Taipei	Speaker	Combatting the emerging threat of ASFV through diagnostics
Regional workshop on swine disease diagnosis	10/19	Beijing, China	Speaker	Diagnostics available for ASFV

ToR 10: To establish and maintain a network with other OIE Reference Laboratories designated for the same pathogen or disease and organise regular inter-laboratory proficiency testing to ensure comparability of results

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

Yes

21. Was your laboratory involved in maintaining a network with OIE Reference Laboratories designated for the same pathogen or disease by organising or participating in proficiency tests?

Yes

Purpose of the proficiency tests: ¹	Role of your Reference Laboratory (organiser/participant)	No. participants	Participating OIE Ref. Labs/ organising OIE Ref. Lab.
Harmonisation of diagnostic tests	Participant	44	Organising reference laboratory - Spain, Participant - south Africa.

¹ validation of a diagnostic protocol: specify the test; quality control of vaccines: specify the vaccine type, etc.

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

No

ToR 11: To organise inter-laboratory proficiency testing with laboratories other

than OIE Reference Laboratories for the same pathogens and diseases to ensure equivalence of results

23. Did your laboratory organise or participate in inter-laboratory proficiency tests with laboratories other than OIE Reference Laboratories for the same disease?

Yes

Note: See Interlaboratory test comparisons in: Laboratory Proficiency Testing at: <http://www.oie.int/en/our-scientific-expertise/reference-laboratories/proficiency-testing> see point 1.3

Purpose for inter-laboratory test comparisons ¹	No. participating laboratories	Region(s) of participating OIE Member Countries
Harmonisation of diagnostic tests	44	<input checked="" type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input checked="" type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East

ToR 12: To place expert consultants at the disposal of the OIE

24. Did your laboratory place expert consultants at the disposal of the OIE?

Yes

Kind of consultancy	Location	Subject (facultative)
Specific technical enquiry	U.K.	The existence of a carrier ASFV status

25. Additional comments regarding your report: