

# WOAH Collaborative Centre Reports Activities 2022

## Activities in 2022

This report has been submitted : 3 mars 2023 12:57

### Centre Information

<b>Title of WOA Collaborating Centre</b>	
<b>Address of WOA Collaborating Centre</b>	
<b>Tel.:</b>	
<b>E-mail address:</b>	
<b>Website:</b>	
<b>Name Director of Institute (Responsible Official):</b>	
<b>Name (including Title and Position) of Head of the Collaborating Centre (WOAH Contact Point):</b>	
<b>Name of the writer:</b>	

### TOR1 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 WOA

Disease control	
Title of activity	Scope
	Development and activation of specialized diagnostic facilities

Laboratory Capacity in Genome sequencing	(Genome sequencing techniques) for characterization of pathogens to enable veterinary authority to set plans for prevention and control of camel diseases
Disease control	
Title of activity	Scope
Laboratory Capacity in molecular diagnosis	Increase scope of diagnostic tests and validation of new tests for detection of different pathogens in camel including Parapoxvirus, CCHFV, MERS-CoV, Brucella melitensis, Trypanosome evansi
Disease control	
Title of activity	Scope
Isolation/ Identification of viruses, bacteria, fungi and parasites	Several bacteria and viruses were isolated and characterized at the ADAFSA-CC including Brucella melitensis, Pasteurella multocida, Dermatophyte spp., Camel pox viruses, MERS-CoV. Identified blood parasite and gastro-intestinal parasites in camels
Disease control	
Title of activity	Scope
Establishment of a Biobank unit	Collection and storage of clinical biological samples/reference materials (Brucella melitensis, camel pox viruses, MERS-CoV, Trypanosome) and associated clinical data for the development, validation of tests for control of the disease and possible vaccine development
Epidemiology, surveillance, risk assessment	
Title of activity	Scope
Studies on tickborne parasitic diseases (TBD) and acaricide resistance in livestock including dromedary camels	Assess the epidemiological status of TBD. Identify factors that contribute to the acaricide resistance in ticks
Training, capacity building	
Title of activity	Scope
Symposium on development of viral vaccines to improve camel health	ADAFSA-CC organized a symposium attended by camel owners from Abu Dhabi Emirate to explain its efforts to develop camel pox and MERS-CoV vaccines aimed to protect camels and promote one health
Training, capacity building	
Title of activity	Scope
	ADAFSA CC organized a two-days training course attended by

Validation of diagnostic procedures in Vet Labs accordance to WOA	participants from UAE, KSA, Bahrain, Jordan, and Egypt on procedures to validate diagnostic tests for livestock and camels according to WOA protocols with emphasis on Brucella and camel pox
Training, capacity building	
Title of activity	Scope
Preparation of Histopathology Slides	As part of contribution to the knowledge sharing and capacity building with national partners, a histopathology Slide Set for teaching purposes of Veterinary Pathology was prepared by ADAFSA-CC. These educational slides have been accepted as intellectual property of ADAFSA-CC by UAE Ministry of Economy
Training, capacity building	
Title of activity	Scope
Participation-World Antimicrobial Awareness Week	Oral presentation entitled: "Scientific Basis of Antimicrobial Resistance" was delivered to highlight the role of molecular diagnostic techniques in AMR
Training, capacity building	
Title of activity	Scope
Scientific Lecture on Toxoplasmosis	Educating on the zoonotic importance of the disease as a one health topic to veterinary students of Higher College of Technology
Veterinary medicinal products	
Title of activity	Scope
Evaluation of Veterinary Antiparasitic Drugs Under Field Practice	Aimed at effective control of nematodes of ruminants including camels

## **TOR3: HARMONISATION OF STANDARDS**

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main focus area for which you were designated

Proposal title	Scope/Content	Applicable area
Interlaboratory Comparison (ILC) of PPR testing in	ADAFSA- CC in collaboration with CIRAD and CVRL in Sudan plan to produce hyperimmune serum against PPR in camels and for further collaboration	Laboratory expertise Training and education

camel	in organizing proficiency tests of PPR in camels	
Interlaboratory Comparison (ILC) Program on diagnostic tests for Camel Diseases	Collaboration with national and international laboratories to share laboratory expertise on diagnosis of: Brucella by RBT Brucella by ELISA Trypanosoma spp. by microscopy Acid Fast Bacilli (AFB) by microscopy	Laboratory expertise
Identification of emerging orthopox viruses	ADAFSA VLD developed and used a simple method to detect and differentiate Orthopoxvirus species using polymerase chain reaction targeting the A-type inclusion protein (ATIP) gene followed by partial genome sequencing	Laboratory expertise

4. Did your Collaborating Centre maintain a network with other WOAHA Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna "Bruno Ubertini"	Italy	Europe MiddleEast	Develop and evaluate an ELISA for the detection of antibodies against camelpox virus
Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale"	Italy	Europe MiddleEast	Molecular characterization of camelpox virus isolated from United Arab Emirates
Centre de coopération internationale en recherche agronomique pour le développement (CIRAD)	France	Europe MiddleEast	To investigate infection of camels by PPR virus and develop diagnostic tools

## TOR4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAHA Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose

Food and Agriculture Organization	Italy	Europe MiddleEast	1. To investigate the potential recombination of MERS-CoV and SARS-CoV-2 or other coronaviruses in camels 2. To investigate SARS-CoV-2 transmission to farm and companion animals in contact with COVID-19 infected humans.
Higher College of Technology (HCT) , United Arab Emirates	UAE	MiddleEast	To assess the epidemiological status of TBD To identify factors that contribute to the acaricide resistance in ticks
Veterinary Pathology Unit, Life Sciences Department AlAin Zoo	UAE	MiddleEast	To characterise Theileria spp. In N Dama Gazelles by molecular techniques

## TOR6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOA?H?

Yes

NAME OF EXPERT	KIND OF CONSULTANCY	SUBJECT
Dr. Abdelmalik Khalafalla	Invited speaker	Attended the International Seminar on Emerging and Re-emerging Diseases of camels, organized by ICAR, India held online on 25 April 2022 and delivered a presentation on Emerging Diseases of Dromedary Camels
Dr. Abdelmalik Khalafalla	Invited speaker	Attended the Abu Dhabi Public Health Centre (ADPHC) and Institut Pasteur Infectious Disease Symposium, 03-04 October 2022 and delivered a presentation on One Health Contributions Towards Effective Responses to Emerging Infectious Diseases
Dr. Abdelmalik Khalafalla	Member: ad hoc group on PPR Status of Countries, the World Organization for Animal Health (WOAH) Paris, France	Participated in the group meeting which took place virtually from 19 to 21 October 2022.
Dr. Abdelmalik Khalafalla	Member: The PPR Global Research and Expertise Network (PPR-GREN) Bureau, FAO/WOAH	Attended the Launch of the Peste des petits ruminants (PPR) Global Eradication Programme Blueprint, which was held in FAO Headquarters, Rome, on the 4th of November 2022.
		Attended the 1st International Salon on Camel Pathology held in Ourgala, Algeria 15-17

Dr. Abdelmalik Khalafalla	Invited keynote speaker	November 2022 and delivered a presentation on Infectious Diseases of Dromedary camels and the Role of the Collaborating Centre
Dr. Abdelmalik Khalafalla	Member: The PPR Global Research and Expertise Network (PPR-GREN) Bureau, FAO/WOAH	Attended the 5th meeting of the PPR Global Research and Expertise Network (PPR-GREN) which took place in a hybrid arrangement from 7-9 December 2022 in Montpellier, France
Asma Abdi Mohamed Shah	Shared Experiences	Presented a lecture on the experiences of the ADAFSA-collaborating centres with the rules of the Performance Veterinary Services (PVS)

## TOR7: SCIENTIFIC AND TECHNICAL TRAINING

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

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 : 25

b) Seminars : 0

c) Hands-on training courses: 60

d) Internships (>1 month) : 1

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	Visit of the Camel Middle East Network (CAMENET) Steering Committee together with FAO and WOAH representatives to understand the various capabilities of the Veterinary laboratories	Gulf Cooperation Council	9
A	Technical Visit of Delegation from the Ministry of Animal Resources Visit to understand the various capabilities of the Veterinary laboratories	Sudan	5
A	Technical meeting with CIRAD, France and Central Veterinary Research Lab, Sudan for collaboration in organizing proficiency testing of PPR in camels	UAE	7

A	Technical Visit of Sinopharm experts	China	4
C	Training Course on Diagnostic Method Validation in Veterinary Laboratories	UAE, Egypt, KSA, Jordan	60
D	Hands-on Training on diagnostic protocols with special emphasis in molecular biology and sequencing for Dr. Housseem Samari 05-16 December 2022	Africa, Algeria	1

## TOR8: 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 WOA?H?

Yes

NATIONAL/INTERNATIONAL	TITLE OF EVENT	CO-ORGANISER	DATE (MM/YY)	LOCATION	NO. PARTICIPANTS
International	4th Camel Middle East Network (CAMENET) Steering Committee	WOAH sub-regional office for GCC	2022-11-21	Abu Dhabi, UAE	9
International	1st International Salon on Camel Pathology	University of Kasdi Mirbah, Ourgala	2022-11-17	Algeria	100
International	5th Meeting -Peste des Petits Ruminants Global Research and Expertise Network (PPR-GREN)	WOAH, FAO	2022-12-09	France	40

## TOR9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOA?H that may be useful to Members of WOA?H

a) Articles published in peer-reviewed journals:

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1-Abdelwahab GE, Ishag HZA, Al Hammadi ZM, Al Yammahi SMS, Mohd Yusof MFB, Al Yassi MSY, Al Neyadi SSA, Al Mansoori AMA, Al Hamadi FHA, Al Hamadi IAS, Hosani MAAA, Mohammed Al Muhairi SS. Antibiotics Resistance in Escherichia coli Isolated from Livestock in the Emirate of Abu Dhabi, UAE, 2014-2019. *Int J Microbiol.* 2022 Apr 26;2022:3411560. doi: 10.1155/2022/3411560. PMID: 35519508; PMCID: PMC9064518.

2- Habeeba S, Khan RA, Zackaria H, Yammahi S, Mohamed Z, Sobhi W, AbdelKader A, Alhosani MA, Muhairi SA. Comparison of Microscopy, Card Agglutination Test for Trypanosoma Evansi, and Real-time PCR in The Diagnosis of Trypanosomosis in Dromedary Camels of The Abu Dhabi Emirate, UAE. J Vet Res. 2022 Mar 25;66(1):125-129. doi: 10.2478/jvetres-2022-0002. PMID: 35582483; PMCID: PMC8959682.

3- Book chapter:

Ishag H, Abdelwahab G, Al Hammadi Z, et al. (2022) Current Situation of Escherichia coli Antibiotic Resistance in Food-producing Animals, Wild Animals, Companion Animals, and Birds: One Health Perspectives. Escherichia coli Infections - An Update [Working Title]. IntechOpen. DOI: 10.5772/intechopen.108896 <http://dx.doi.org/10.5772/intechopen.108896>

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4. El Tigani-Asil ETA, Blanda V, Abdelwahab GE, Hammadi ZMA, Habeeba S, Khalafalla AI, Alhosani MA, La Russa F, Migliore S, Torina A, Loria GR, Al Muhairi SS. Molecular Investigation on Tick-Borne Hemoparasites and Coxiella burnetii in Dromedary Camels (Camelus dromedarius) in Al Dhafra Region of Abu Dhabi, UAE. Animals. 2021; 11(3):666. <https://doi.org/10.3390/ani11030666>

5. Terab AMA, Abdel Wahab GED, Ishag HZA, Khalil NAH, El Tigani-Asil ETA, Hashem FM, Khalafalla AI, Shah AAM, Al Muhairi SSM. Pathology, bacteriology and molecular studies on caseous lymphadenitis in Camelus dromedarius in the Emirate of Abu Dhabi, UAE, 2015-2020. PLoS One. 2021 Jun 8;16(6):e0252893. doi: 10.1371/journal.pone.0252893. PMID: 34101753; PMCID: PMC8186769.

6. Abdelmalik I. Khalafalla , Mansour F. Hussein. 2021. Infectious Diseases of Dromedary Camels: A Concise Guide 1st ed.

b) International conferences:

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1- Abdelmalik Khalafalla (2022). Emerging and re-emerging diseases of dromedary camels. Proceedings of the ICAR International Seminar on Emerging and re-emerging diseases of camels. 25 April 2022, online.

2- Hassan Zackaria Ishag (2022). Characterization of PPR virus in domestic and wild small ruminants in United Arab Emirates in 2021. 5th meeting of the PPR Global Research and Expertise Network (PPR-GREN) which took place in a hybrid arrangement from 7-9 December 2022 in Montpellier, France

3- Asma Abdi Mohamed Shah (2022). WOAHC Collaborating Centre and its Role in Enhancing Biosecurity". First International Saudi Veterinary Society conference, Prospects of Veterinary Medicine in the Kingdom of Saudi Arabia (Challenges and Chances) 11-13/10/2022, Saudi Arabia

c) National conferences:

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1- Ghada Abdel Wahab (2022). "One Health Approach - Experiences of Abu Dhabi Agriculture and Food Safety Authority" 16th Dubai International food safety conference 1-3rd Nov. 2022

2- Asma Abdi Mohamed Shah (2022) "One Health Approach: ADAFSA Collaborating Centre for Camel Diseases and its Role in Promoting the One Health": 16th Dubai International food safety conference 1-3rd Nov. 2022

3- Abdelmalik Khalafalla (2022). One Health Contributions Towards Effective Responses to Emerging Infectious Diseases. Proceedings of the Abu Dhabi Infectious Disease Symposium organized jointly by the Abu Dhabi Public Health Centre (ADPHC) and Institut Pasteur, 03-04 October 2022.

4- Ghada Abdel Wahab (2022). "Food Borne Diseases"- Abu Dhabi International Food Exhibition 6-8 December 2022, Dubai, United Arab Emirates.

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

In response to customer requirements, community services and biosecurity concern ADAFSA -CC increased the scope of diagnostic services to cover disease diagnosis in other food producing animals including cattle, small ruminants & poultry as well as pets and wildlife animals to control epidemic and zoonotic diseases that may affect public health and biosecurity system.

Hence to achieve ADAFSA scope on biosafety and biosecurity, ADAFSA-CC activated diagnostic tests for diseases in cattle, sheep, goats, poultry and pets.

Deliverables: Publishing of:



1- *Ishag HZA, Terab AMA, El Tigani-Asil ETA, Bensalah OK, Khalil NAH, Khalafalla AI, Al Hammadi ZMAH, Shah AAM, Al Muhairi SSM. Pathology and Molecular Epidemiology of Fowl Adenovirus Serotype 4 Outbreaks in Broiler Chicken in Abu Dhabi Emirate, UAE. Veterinary Sciences. 2022; 9(4):154. <https://doi.org/10.3390/vetsci9040154>*

11. What have you done in the past year to advance your area of focus, e.g. updated technology?

1- *Based on well experience on adoption of quality system VLD was nominated as an OIE collaborating Centre for quality management system in the region. Furthermore, and for outstanding technical capabilities, preparedness, and high response for emergencies ADAFSA veterinary laboratory designated as national reference laboratory in MERS CoV and Crimean Congo Haemorrhagic Fever (CCHF).*

2- *ADAFSA-CC have published scientific papers and book chapter in peer-reviewed journals, and one book (Infectious Diseases of Dromedary Camels- a concise review). The publications were addressed in diagnosis of camel diseases using advanced technologies as well as on diagnosis of zoonotic diseases to strengthen one health concept and biosecurity. An atlas illustrating the clinical behaviour and pathology of major camel diseases which strongly help in veterinary education for undergraduate, postgraduate and researchers worldwide was published in 2020.*

3- *Updated the sequencing facilities that enables diagnosis of various disease pathogens.*

12. Additional comments regarding your report: