



**16TH CONFERENCE OF
THE OIE REGIONAL COMMISSION
FOR THE MIDDLE EAST**

3-4 NOVEMBER 2021

Control and Eradication of infection with *Burkholderia mallei* (glanders) in equids in the State of Kuwait

Introduction:

- Glanders is a bacterial disease, caused by, *Burkholderia mallei* (*B. mallei*) with potential zoonotic impact, primarily affects horses, mules, donkeys and humans.
- Carnivores that eat meat from infected animals get affected.
- Human cases rare, life threatening, in untreated cases fatality rate is 95%.
- Glanders was a worldwide problem in equids, most countries eradicated in mid 1990s.
- *B. mallei* used as biological weapon against military horses in past wars.



Geographic Distribution

- Glanders is believed to be endemic in parts of the Middle East, Asia, Africa and Central and South America.
- Glanders eradicated from Western Europe, Canada, the U.S., Australia, Japan and some other countries, never endemic in New Zealand.
- *B. mallei* distribution is difficult to determine exactly by serological tests, as it cross-react with *B. pseudomallei*.



History of the absence or eradication of the disease in the State of Kuwait

- Infection with *B. mallei* (glanders) reported in equids in the State of Kuwait in 2009 and 2010.
- Implemented active & targeted surveillance in 2010, last two cases confirmed on 19 December 2010 (one died and other was destroyed).
- Through surveillance demonstrated absence of *B. mallei* infection in equids.
- Regained free status by self-declaration in March 2012.
- Since March 2012 maintained free status by continuing surveillance as part of early detection system.



History of the absence or eradication of the disease in the State of Kuwait (continue)

- Infection with *B. mallei* in horses of an equine farm, in **Wafra Al Ahmadi governorate** confirmed by CFT in the national laboratory.
- Reconfirmed in the OIE Reference laboratory for glanders, in the United Arab Emirates (UAE).
- Measures taken to eliminate *B.mallei* infection and the outbreak was resolved on 17 September 2019.

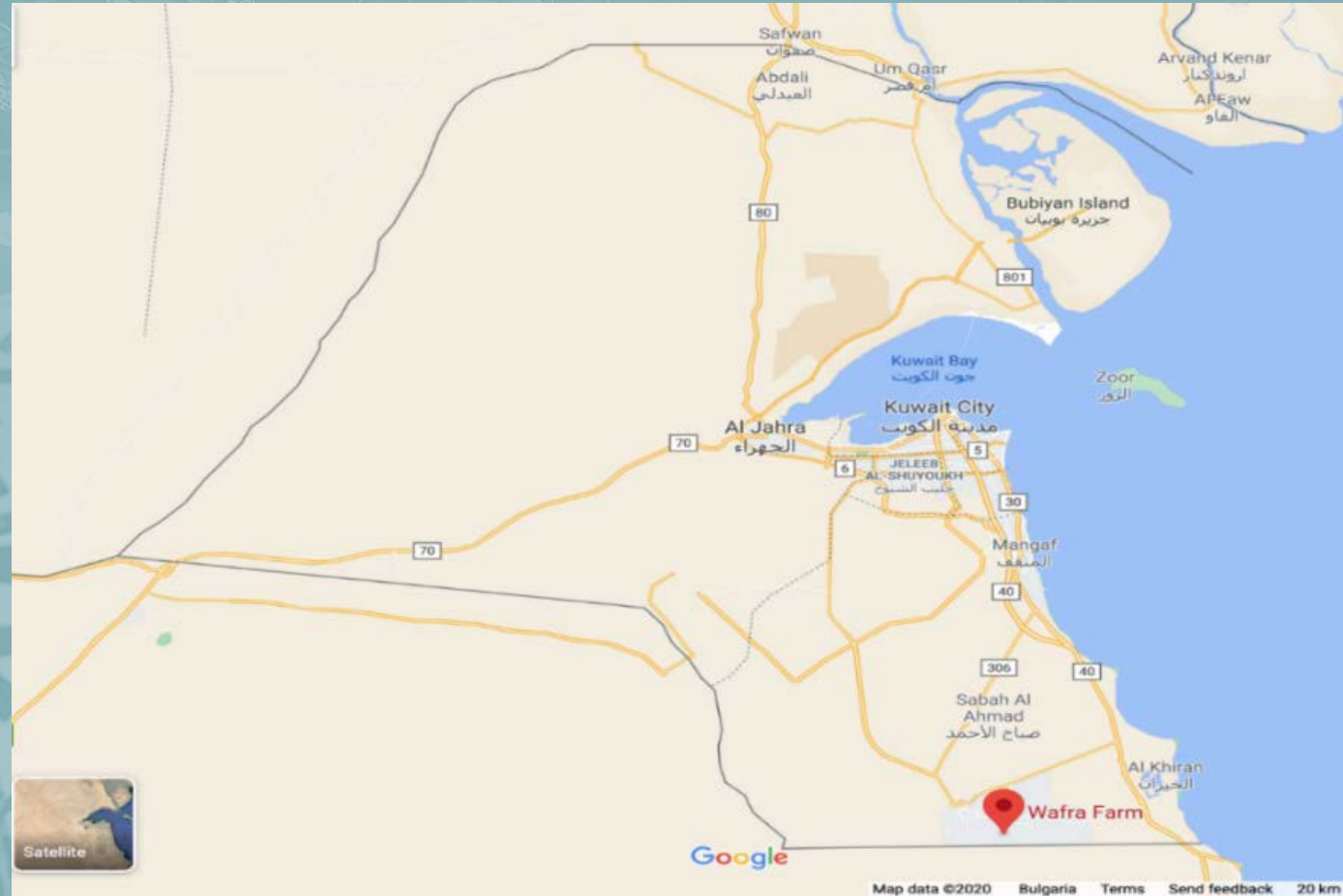


***B. mallei* infection (glanders): outbreak details:
Equine farm, Wafra farms area, Wafra Al Ahmadi governorate**

Susceptible animals	Positive cases/Microchip	Date of examination	Date of humane killing	Date of disinfection of farm premises
44 horses	985101045172760	20-7-2019	25-7-2019	25-7-2019
	965000000359859	20-7-2019 & 24-7-2019	30-7-2019	30-7-2019
	941000018296736	20-7-2019 & 24-7-2019	30-7-2019	30-7-2019
	900155000178117	8-9-2019	17-9-2019	17-9-2019
	982000363581817	8-9-2019	17-9-2019	17-9-2019
	682000100006804	8-9-2019	17-9-2019	17-9-2019



Outbreak location





Disease control measures in response to *B. mallei* infection (glanders) outbreaks

- Affected equine farm immediately brought under veterinary authority control after confirmation of *B. mallei* in the national laboratory.
- Quarantine and movement restrictions of infected farm, the neighboring stables and about 3-kilometer radius from the affected farm enforced by law.
- Epidemiological investigation carried out for traceability (trace-back and trace forward for the possible source of the outbreak and spread).
- Movement controls were maintained outside the 3 kms area, all horses tested with negative results by CFT prior to movement.



Disease control measures in response to *B. mallei* infection (glanders) outbreaks (continue)

- Affected horses humanly euthanized for diagnostic purpose, postmortem examination conducted and relevant specimens were collected for *B. mallei* isolation and identification including for genetic analysis.
- carcasses were deeply buried with an appropriate disinfection procedures.
- Affected equine farm (premises) cleansed and disinfected with an appropriate disinfectant.



Surveillance during outbreaks

- Equine population surveyed in the country.
- Surveillance (active and targeted) has been carried out in accordance with the OIE *Terrestrial Code*, Chapter 1.4 (Animal Health Surveillance), Chapter 12.10, Article 12.10.8 – 12.10.9 (for glanders), to demonstrate absence of infection with *B. mallei*.
- Active clinical and serological surveillance carried out in the affected equine farm, around 3-kilometer radius of the affected farm, and other areas in the whole country.
- Passive clinical surveillance carried out by creating public awareness in the whole country including on imported horses.
- About 7106-equid population serologically tested in the whole country, only six horses confirmed as positive for *B. mallei* in one farm



Laboratory diagnosis

- During surveillance, blood samples tested in the national veterinary laboratory, Kuwait.
- Positive samples reconfirmed in the OIE Reference laboratory, Dubai, UAE.
- Random negative and positive samples tested in the OIE Reference laboratory for glanders (Friedrich-Loeffler Institute, Jena) Germany.
- Samples for the identification of *B. mallei*, PCR and culture tests conducted at the OIE Reference laboratory in France (ANSES Maisons-Alfort).



Socio economic impact of *B. mallei* infection

- Obviously, glanders is associated with severe socio-economic impact for animal's owner and at national level, including zoonotic impact.
- Death or culling of infected horses due to *B. mallei* would be severe economic losses to the owner and country as well.
- However, this is isolated outbreak, affected only in one equine farm, culled six infected horses, certainly economic loss to the owner, due to financial constraint, the PAAF could not able to compensate.
- The animal's owner has managed the losses and cooperated with the PAAF to contain and eliminate glanders.
- Trade: Kuwait export registered horses to the GCC countries, Europe, and USA, to some extent the trade of horses (export) severely affected due to this outbreak as many said countries banned horses from Kuwait.
- No zoonotic impact established due to outbreak.



Challenges encountered and glanders situation managed

- Kuwait had previous experience and learnt lesson of handling glanders outbreaks in 2009 and 2010.
- Rapid action taken in response to current outbreak(2019) to contain the infection.
- Human resources, logistic arrangement, enhancing surveillance strategies and laboratory diagnosis were considered as little bit challenge with financial constraints and COVID-19 pandemic situation (lockdown and slowing down veterinary services routine activities from beginning of February 2020).
- However, active and passive surveillance activities were not much affected and carried out in order to eliminate glanders.



Self-declaration for recovery of free status for *B.mallei* infection (glanders)

- Prior to the confirmation of Infection with *B. mallei* (glanders) July 2019 in the national laboratory, the State of Kuwait had been free from Infection with *B. mallei* since 11 March 2012,
- A continuous awareness program for the disease is in place,
- A stamping out policy (selective killing, disposal of carcasses, and cleansing and disinfection of establishments) was applied and completed to the infected premises, including cleansing and disinfection of the infected premises on 17 September 2019,
- Twelve months have elapsed in accordance with the OIE *Terrestrial Code*, Chapter 12 10. Article 12.10.3 after cleansing and disinfection of the infected premises,



Self-declaration for recovery of free status for *B.mallei* infection (glanders), continue

- Surveillance has been carried out in accordance with the OIE *Terrestrial Code*, Chapter 1.4 (Animal Health Surveillance), Chapter 12.10, Article 12.10.8 – 12.10.9 (for glanders), with no cases or no evidence of infection with *B. mallei*.
- **The State of Kuwait self-declared free from infection with *B. mallei* (glanders) in equids" as of 17 September 2020 with the provisions of Chapter 1.6 and Article 12.10.3 of the OIE *Terrestrial Code*, 2019, and consistent with the information provided in WAHIS.**



Thank you for kind attention

16TH CONFERENCE OF THE OIE REGIONAL COMMISSION FOR THE MIDDLE EAST | 3-4 NOVEMBER 2021