

WOAH Standards on animal brucellosis diagnosis and activities on brucellosis control in Asia Pacific Region

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Regional One Health Coordinator

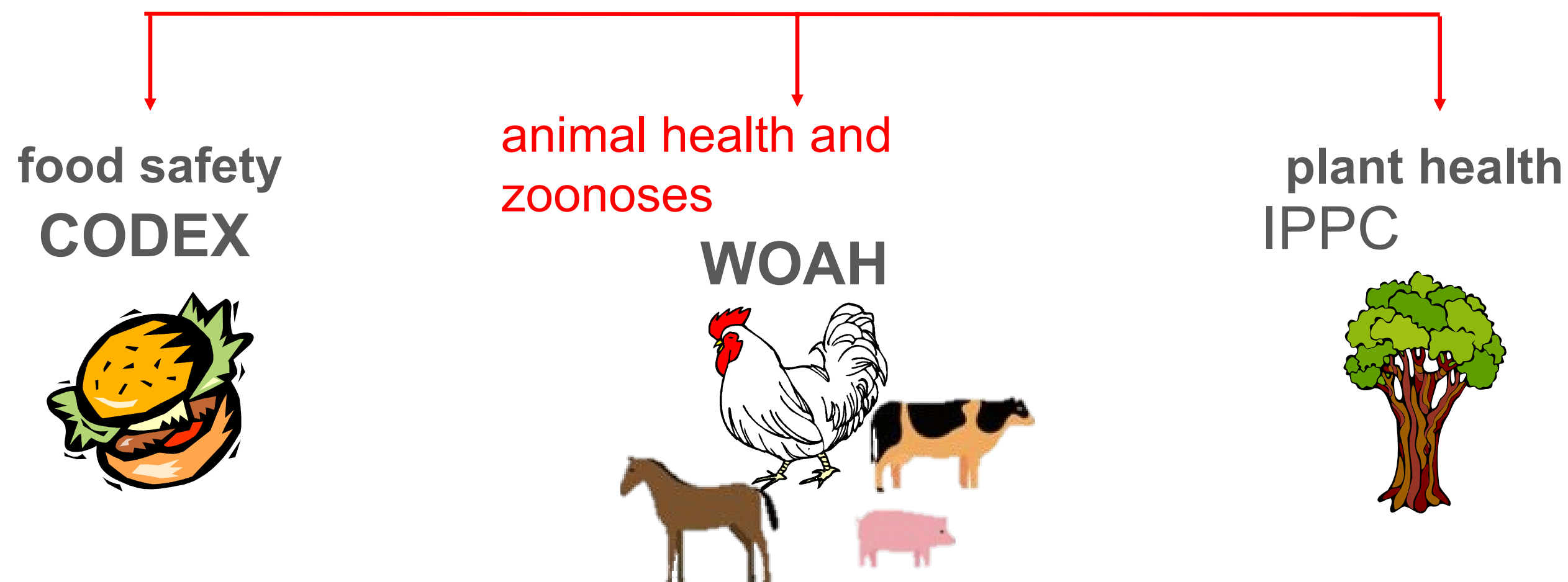
2nd WOAH Regional Training Workshop on Brucellosis
Diagnosis
Beijing, P.R. China, 26 - 29 May 2026



WOAH International Standards

THE “3 SISTERS”

Standard-setting organisations



Codex = Joint FAO/WHO Codex Alimentarius Commission
WOAH = World Organisation for Animal Health
IPPC = International Plant Protection Convention (FAO)

WTO SPS Agreement recognises WOA as **a reference organisation for international standards** on animal health including zoonoses

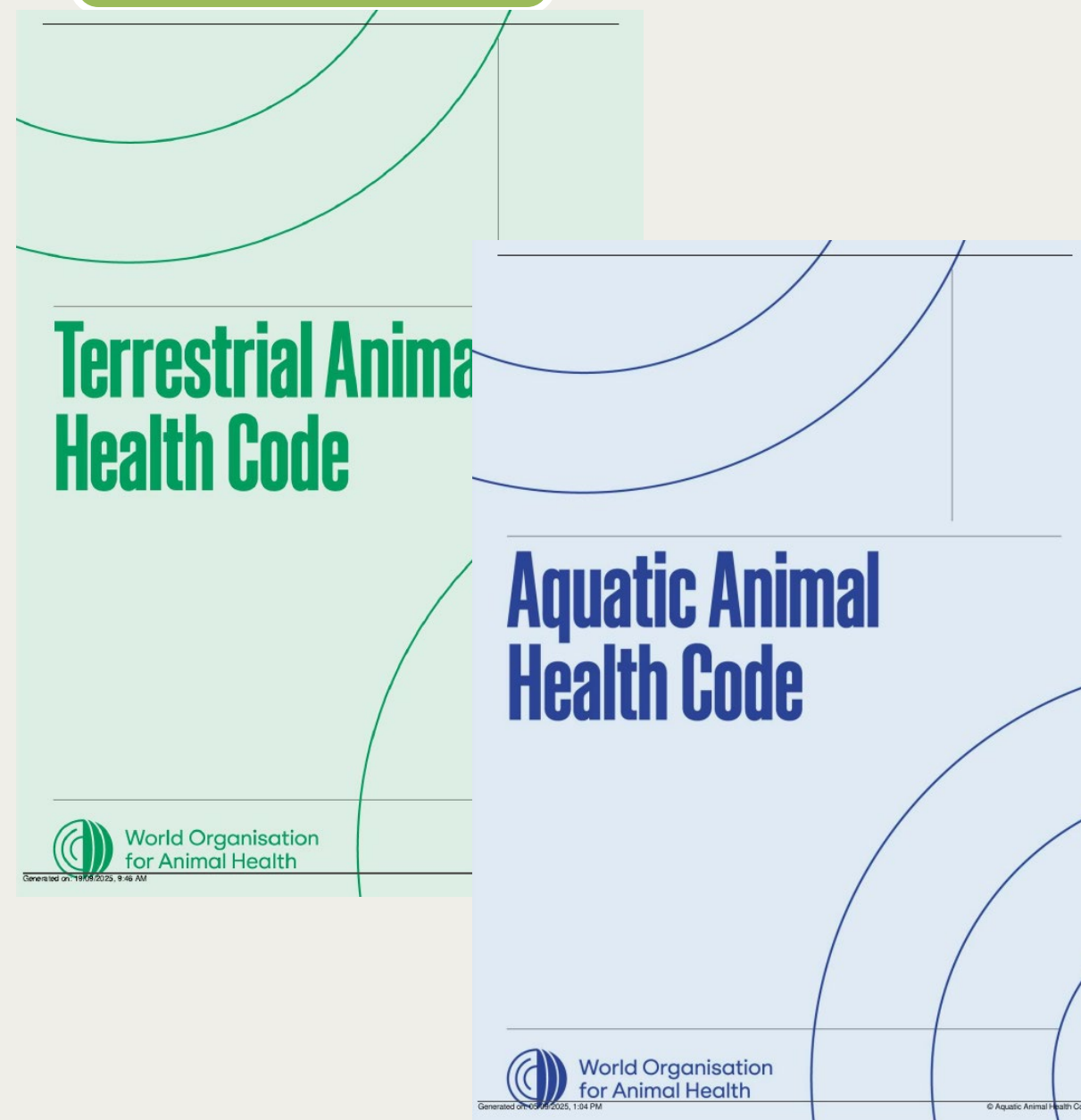
WOAH International Standards

WOAH establishes standards for the improvement of animal health and welfare and veterinary public health worldwide, including the prevention of disease spread through international trade of animals and animal products. Recognised by the WTO SPS Agreement as the standard for animal health and zoonoses.



Access WOAHS
Standards here:

Codes



Manuals





WOAH International Standards on Animal Brucellosis

Terrestrial Code

Standards for disease control, surveillance and safe international trade

Chapter 8.4 Infection with *Brucella abortus*, *B. melitensis* and *B. suis*

(Case definition, Safe commodities, Definition of Brucella status, Importation requirements)



Manual of Diagnostic Tests and Vaccines for Terrestrial Animals

Chapter 3.1.4

Standards for laboratory diagnostic
and vaccine production
Prescribed diagnostic tests





Chapter 8.4. Case definition

3 strains
6 families



Brucella strains

- *Brucella abortus, B. melitensis, B. suis*
- *excluding vaccine strains

Susceptible animals

- Both Domestic and captive wild animals
- Bovids: Cattle, Bison And Water Buffalo,
- Sheep and Goats,
- Pigs, Camelids, Cervids, European hare

Diagnostic criteria

- Clinical + non clinical animals
- Brucella has been isolated from a sample from an animal
- OR Positive results to a diagnostic test have been obtained, with epidemiological link to a case



Chapter 8.4.

Types of Articles for Country, Zone and Herd freedom



Article	Country / Zone or Flock freedom
8.4.1.	General provisions
8.4.2.	Safe commodities
8.4.3 to 8.4.9	Country or zone freedom in different species
8.4.10. and 8.4.11	Herd or flock freedom in bovids, sheep and goats, camelids or cervids with / without vaccination
8.4.12	Herd free from infection with Brucella in pigs
8.4.13.	Recovery of the Brucella infection free status in a country or a zone



Chapter 8.4.

Types of Articles related to Trade

Article

Recommendations for the importation

8.4.14.

Animals for breeding or rearing

8.4.15.

Pigs for breeding or rearing

8.4.16.

Animals for slaughter

8.4.17.

Semen

8.4.18.

Embryos

8.4.19.

Fresh meat and meat products other than mentioned in article 8.4.2.

8.4.20.

Milk and milk products

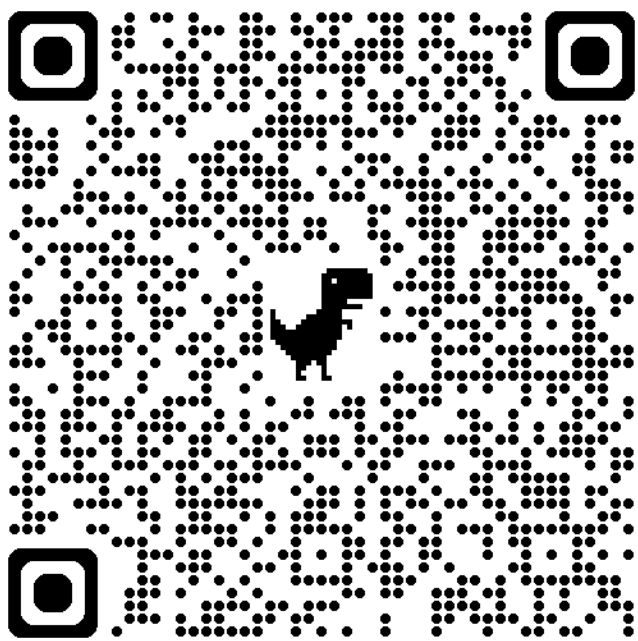
8.4.21.

Wool and hair



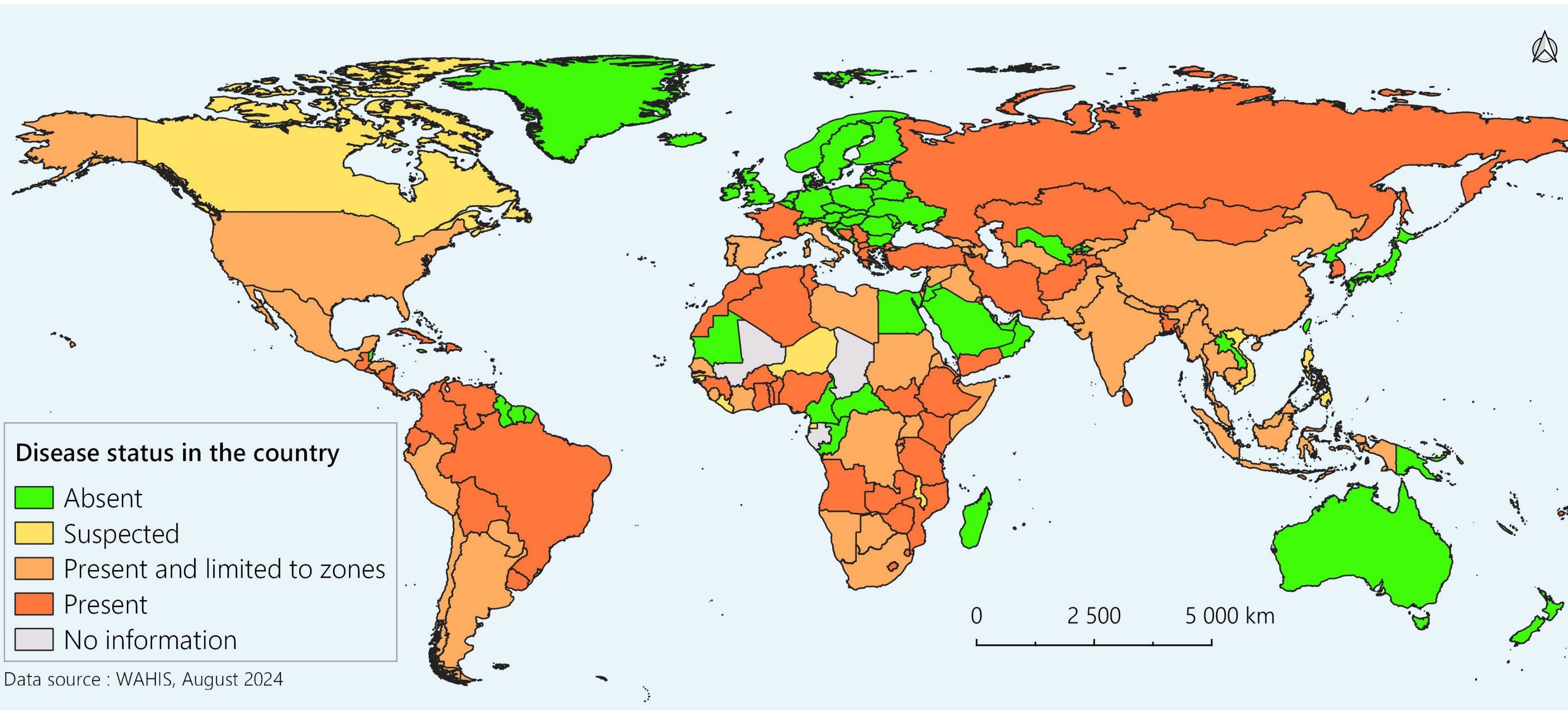
Notification to WOAHA: World Animal Health Information System (WAHIS)

1. A disease is considered present in a country if it has been reported at least one semester during the covered period (2014-2023)
2. for reporting purposes Brucellosis was split into 3 “diseases”
3. Each caused by the one of the 3 pathogenic agents : *Brucella abortus*, *Brucella melitensis* and *Brucella suis*).
4. Maps show the diseases situation as reported by WOAHA Members through WAHIS for the covered period (2014-2023).



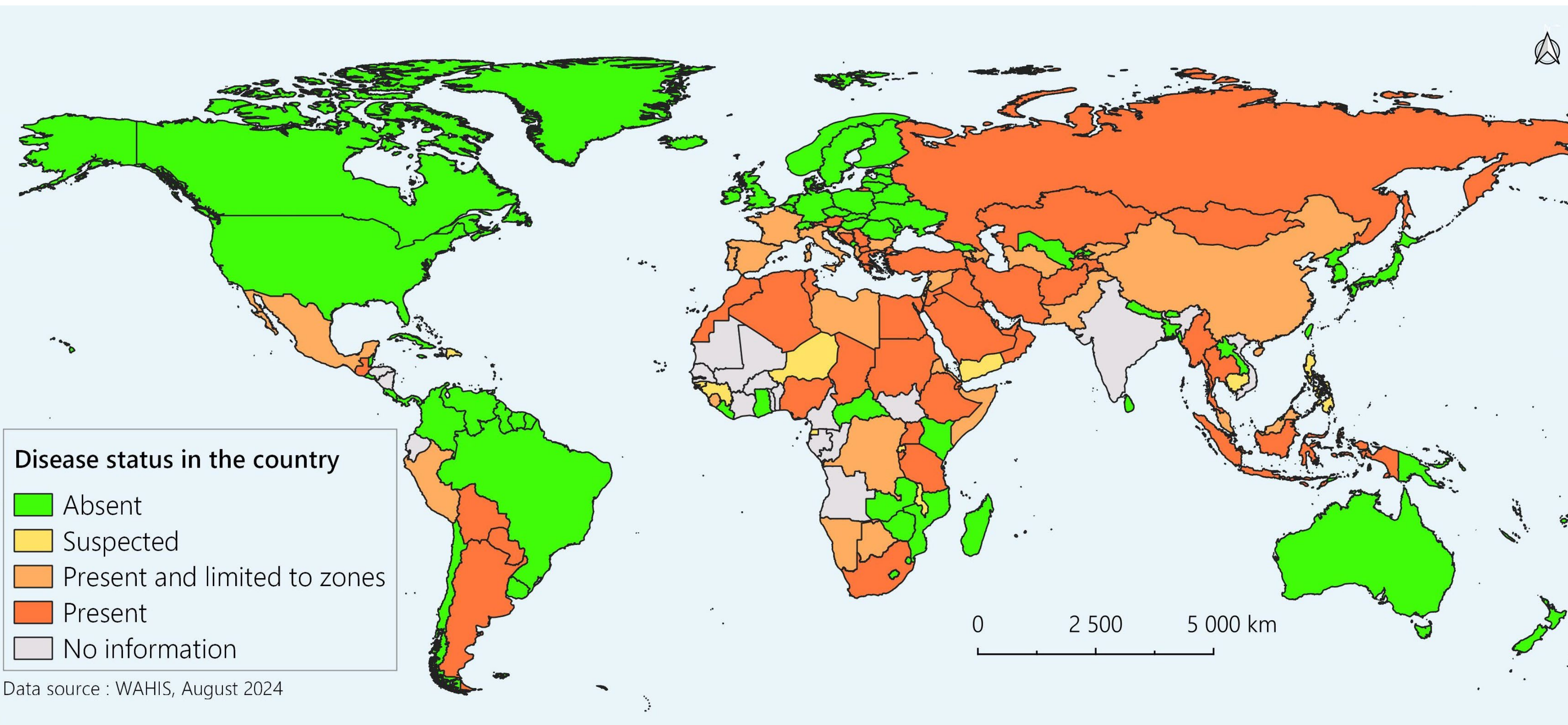


Global distribution of Brucellosis (*B. abortus*) (2014-2023)



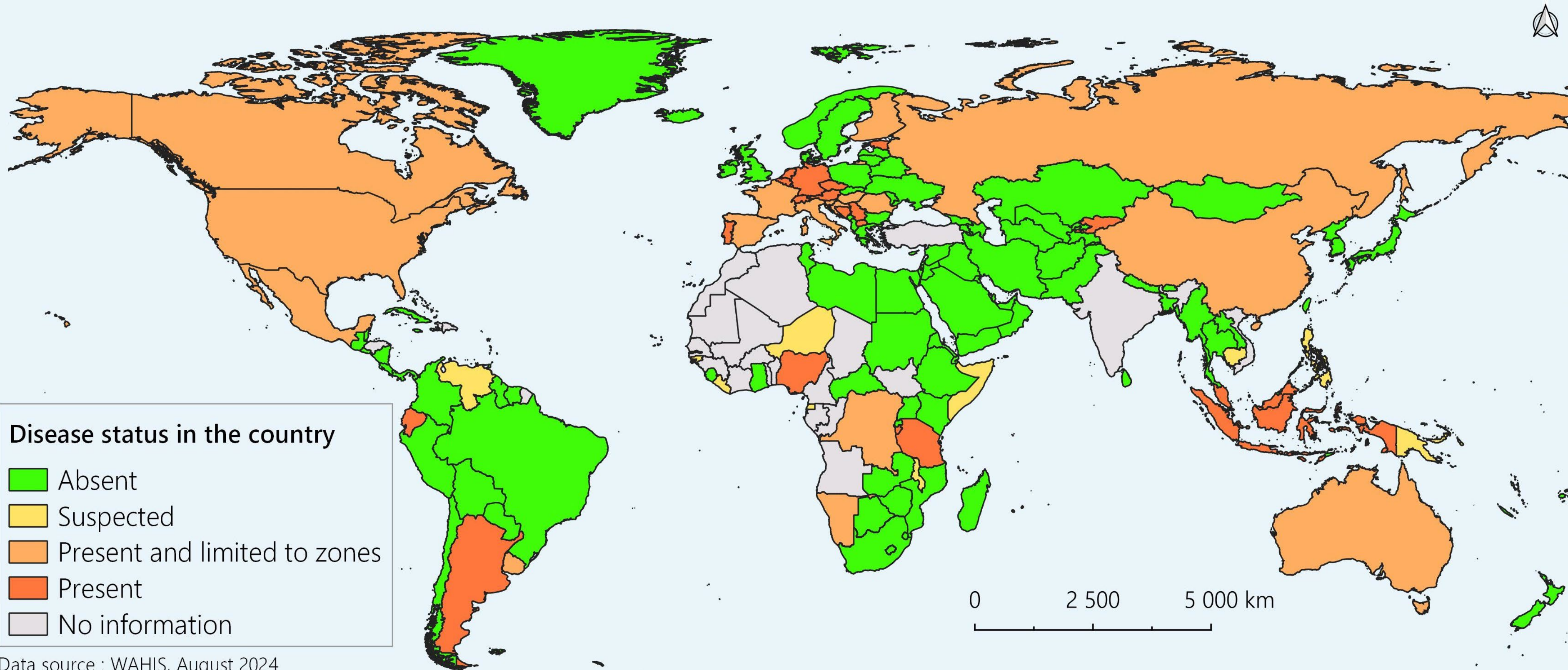


Global distribution of Brucellosis (*B. melitensis*) (2014-2023)





Global distribution of Brucellosis (*B. suis*) (2014-2023)



Data source : WAHIS, August 2024



Terrestrial Manual: Standards on Brucellosis

Chapter 3.1.4. BRUCELLOSIS (*Brucella abortus*, *B. melitensis* and *B. suis*)





Terrestrial Manual

Chapter 3.1.4. BRUCELLOSIS (*Brucella abortus*, *B. melitensis* and *B. suis*)



Description of the disease

- Epidemiology, Susceptible Species, clinical infection
- *B. abortus* mainly in cattle; *B. melitensis* mainly in sheep and goats
- Zoonotic disease



Detection of the agent

- Presumptive and confirmatory diagnostic tests
- Screening of herds using serological tests
- no single serological test is appropriate in each animal species and all epidemiological situations



- Requirements for vaccines and diagnostic biologicals
- *Brucella abortus* strain 19 (cattle) and *B. melitensis* strain Rev.1 (sheep and goat) remain the reference vaccines
- rough *B. abortus* strain RB51 vaccine in cattle in some countries



Method	Purpose					
	Population freedom from infection	Individual animal freedom from infection ^(a)	Contribute to eradication policies ^(b)	Confirmation of suspect or clinical cases ^(c)	Herd/flock prevalence of infection – surveillance	Immune status in individual animals or populations post-vaccination
Detection of the agent						
Staining methods	–	–	–	+	–	–
Culture	–	–	–	+++	–	–
PCR ^(d)	–	–	–	+ / ++	–	–
Detection of immune response						
BBAT (RBT or BPAT)	+++	++	+++	+	+++	–
FPA	++	++	+	++	++	–
CFT	++	++	+++	++	+++	–
I-ELISA	+++	++	+++	++	+++	–
C-ELISA	++	+	+	+	++	–
BST	++	–	+	+++	++	–
SAT	++	+	+	–	+	–
NH and cytosol protein-based tests ^(e)	–	–	+	++	–	–
Bulk milk tests ^(f) Milk I-ELISA or Milk ring-test	+++	–	+++	+	+++	–

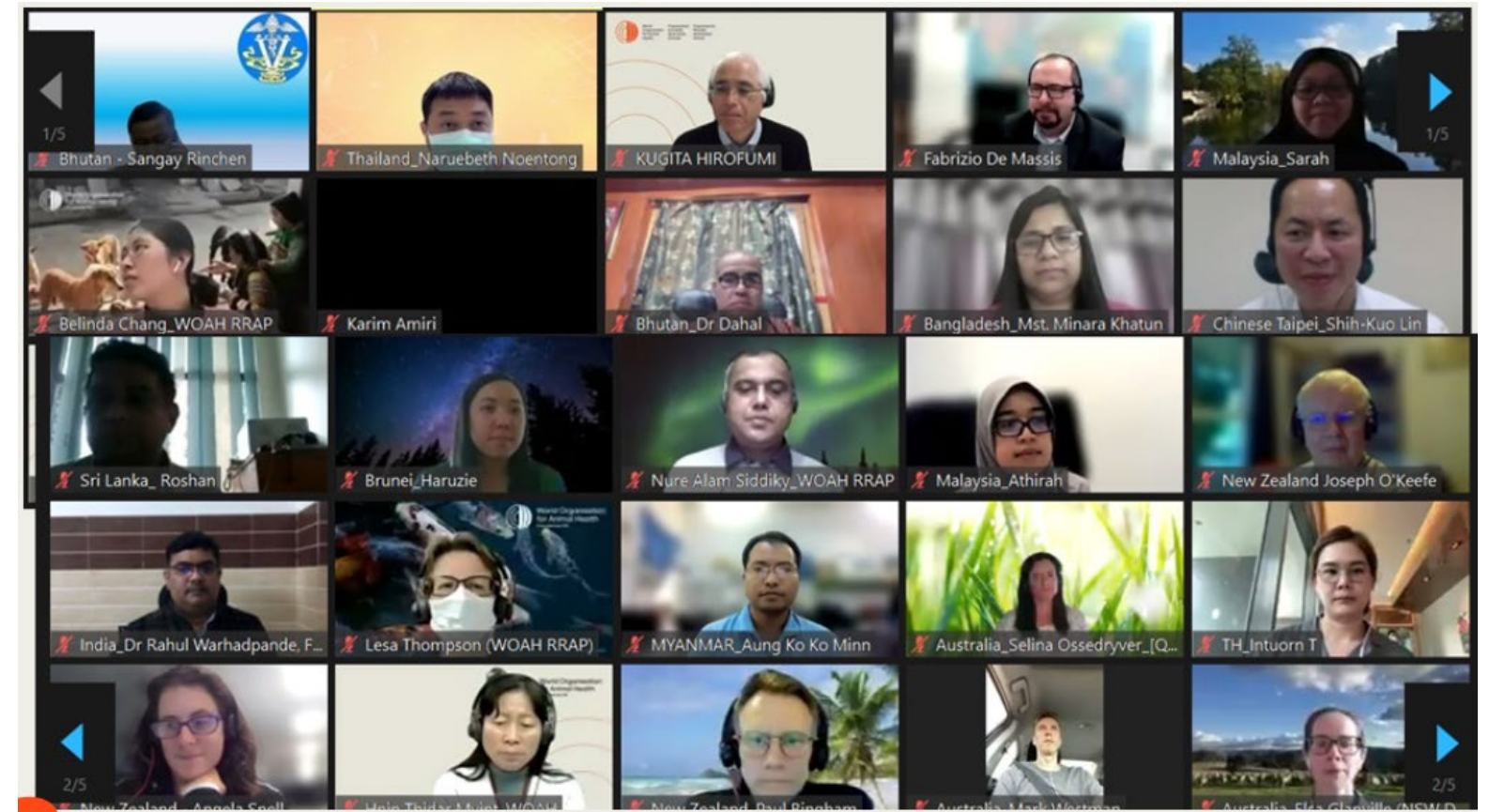
WOAH Regional Activities on Brucellosis

FAO-APHCA/WOAH/USDA regional workshop on prevention and control of neglected zoonoses in Asia (15-16 Jul 2015, Japan)

FAO-APHCA/OIE Regional Technical Workshop on Prevention and Control of Animal Brucellosis and Tuberculosis in Asia held in Bangkok, Thailand, (11-13 September 2017)

OIE Webinar on progress and challenges in brucellosis control in the Asia Pacific region (29 July 2021)

WOAH Virtual workshop on brucellosis control in the Asia Pacific region (15 Dec 2022)



WOAH Regional Activities on Brucellosis

Regional Workshop on Brucellosis in 2024



- **Endemic and high burden disease in the region**
- **Only few countries free of bovine brucellosis (Australia, Japan, New Zealand)**
- **Pacific Island countries (PNG, Vanuatu) – claim free but lack adequate surveillance**
- **Underreporting, diagnostic and surveillance challenges, poor reporting structures in endemic countries.**

Regional Workshop on Zoonotic Tuberculosis and Brucellosis Control in the Asia Pacific Region, Qingdao Sophia Hotel, Qingdao, P.R. China, 24-26 September 2024

Supporting Capacity for Diagnosis and Surveillance of Brucellosis

WOAH Regional Training on Brucellosis Diagnosis

(5-8 August 2025, Beijing, P.R. China)



- 14 WOAHA Members from across Asia Pacific
- Participants were highly satisfied with the training contents
- Feedback
 - What they liked:
 - Network with other Members
 - Willingness to accommodate needs
 - For some, first training on brucellosis diagnosis
 - Hospitality, Food, Halal food
 - Suggestions
 - More time for hands-on activities
 - Add other diagnostic tests such as molecular tests

Thank you!

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