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Vector-borne diseases in OIE Standards

Conference of the Austrian Presidency and FESASS
Vector-borne diseases: how to live with them?

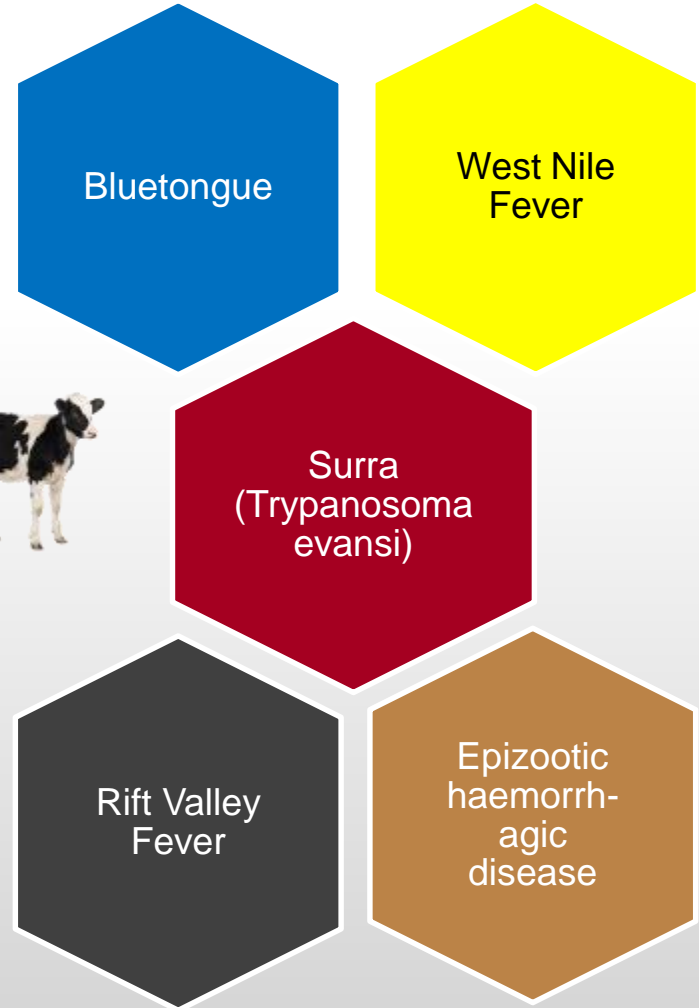
13 December 2018

OIE-Listed diseases and infections – vector borne



Multiple species diseases

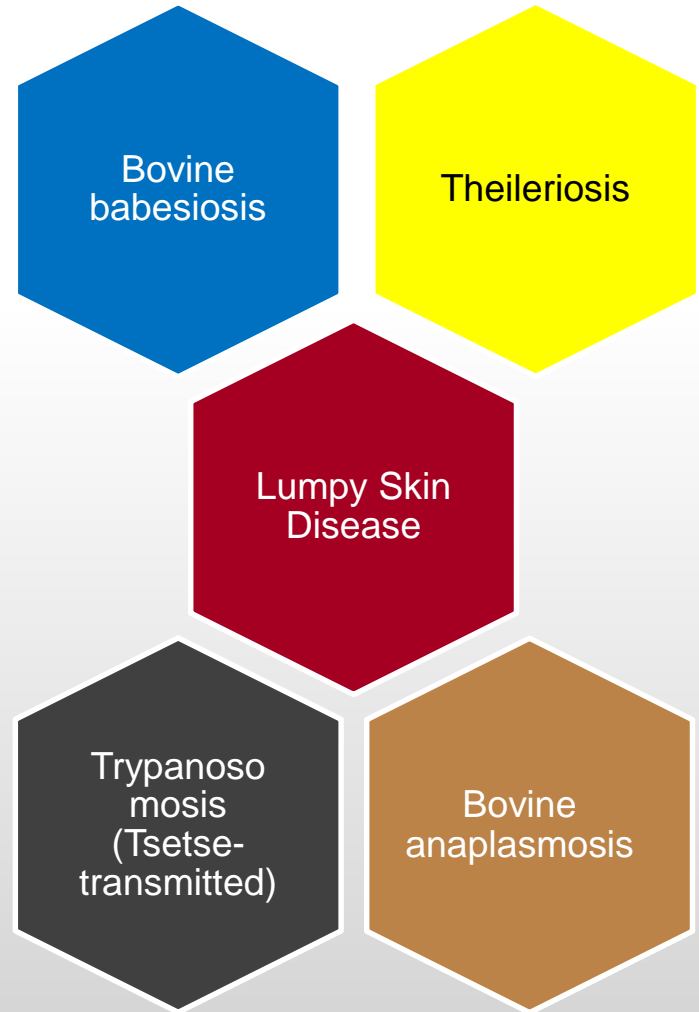
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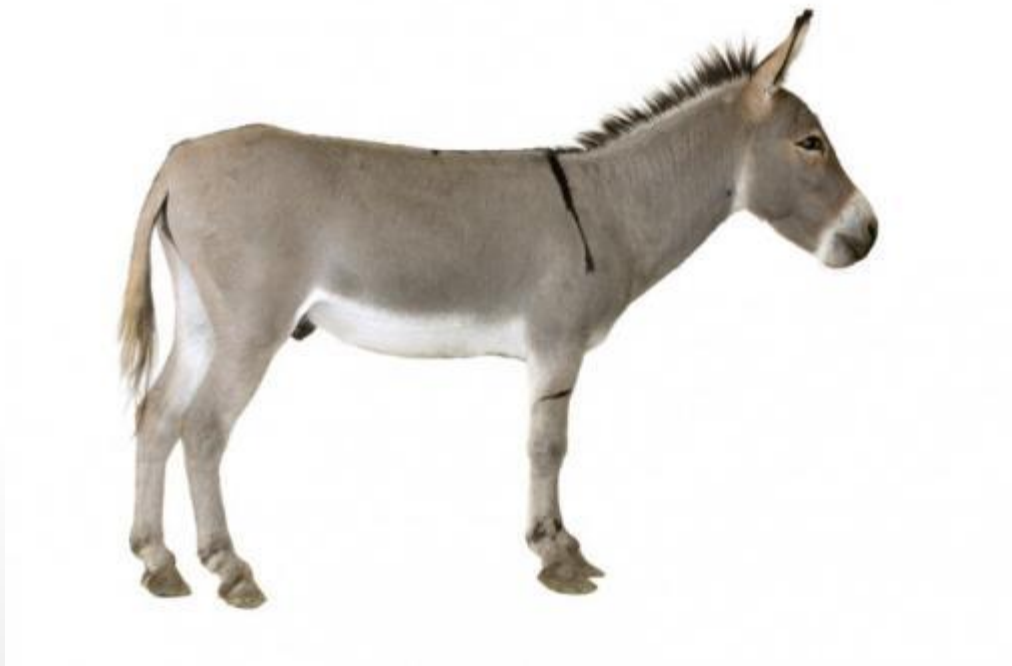




Cattle diseases

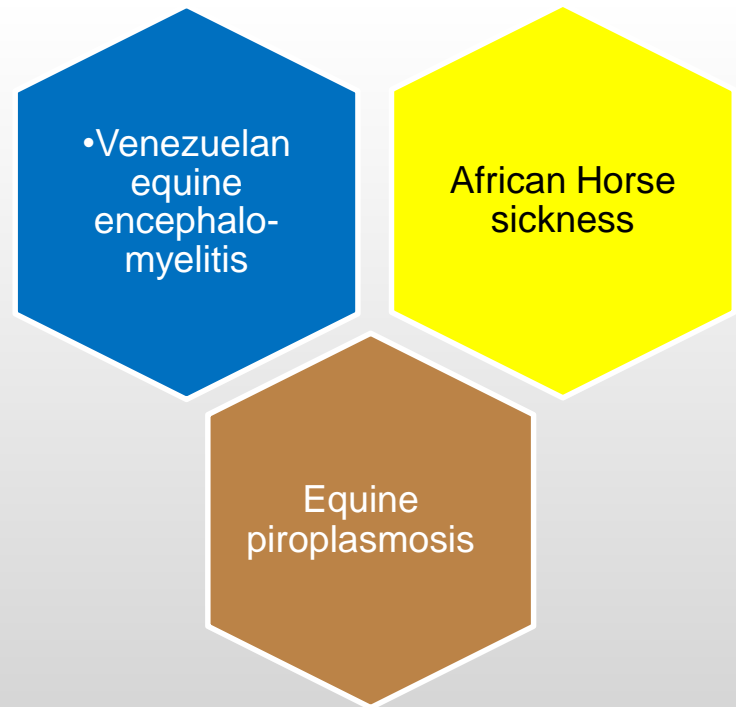
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Equine diseases

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Swine diseases

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African Swine
Fever

Sheep, goat and avian diseases

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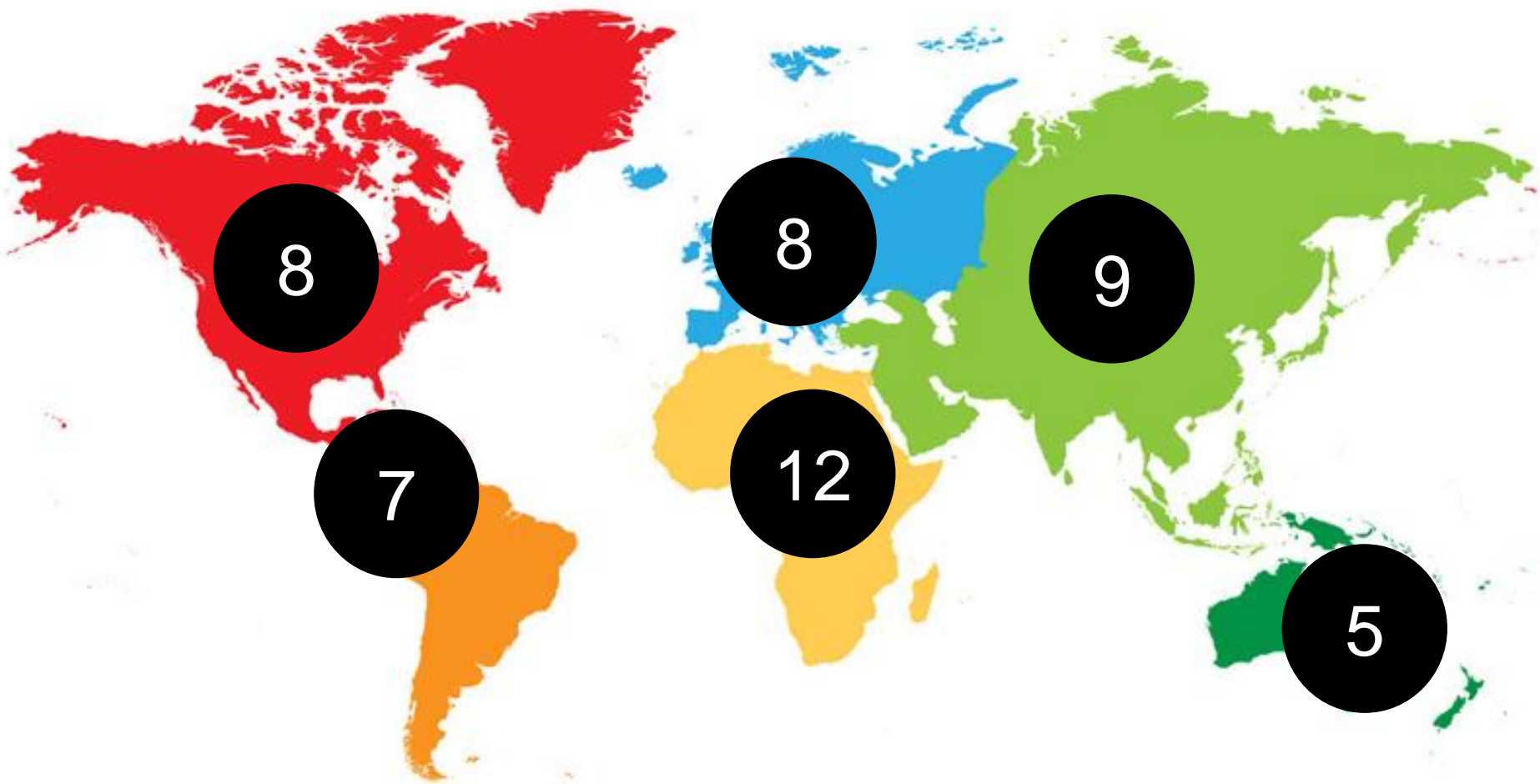
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What vectors?

3



Where do they occur?



How are these diseases treated in the Code?

	OIE listed diseases	AHC chapter
Multiple species diseases	Bluetongue	8.3
	Epizootic haemorrhagic disease	8.7
	Rift Valley Fever	8.15
	<i>Trypanosoma evansi</i> (including Surra)	none
	West Nile Fever	8.19
Cattle diseases	Anaplasomiasis	11.1
	Bovine babesiosis	11.2
	Lumpy skin disease	11.9
	Theileriosis	11.10
	<i>Trypanosomiasis</i> (tsetse transmitted)	Work in progress
Equine diseases	African horse sickness	12.1
	Equine piroplasmiasis	12.7
	Venezuelan equine encephalomyelitis	12.11
Swine diseases	African swine fever	15.1

Chapters strongly structured by the vector-borne dimension

- ❖ Bluetongue
- ❖ Epizootic Haemorrhagic Disease
- ❖ Rift Valley Fever
- ❖ West Nile Virus
- ❖ African Horse Sickness

Chapters with limited reference to the vector-borne dimension

- ❖ Anaplasmosis
- ❖ Bovine babesiosis
- ❖ Theileriosis
- ❖ Equine piroplasmiasis
- ❖ African Swine Fever
- ❖ Venezuelan equine encephalomyelitis

Chapters with no reference to the vector-borne dimension

- ❖ Lumpy Skin Disease

Chapters strongly structured by the vector-borne dimension

- ❖ Bluetongue
- ❖ Epizootic Haemorrhagic Septicemia
- ❖ Rift Valley Fever
- ❖ West Nile Virus
- ❖ African Horse Sickness



Chapters with limited reference to the vector-borne dimension

- ❖ Anaplasmosis
- ❖ Bovine babesiosis
- ❖ Theileriosis
- ❖ Equine piroplasmiasis
- ❖ African Swine Fever
- ❖ Venezuelan equine encephalomyelitis



Chapters with no reference to the vector-borne dimension

- ❖ Lumpy Skin Disease



- Notion of “**seasonal freedom**” of a country or zone: **BT, EHD, WNV**
 - *And notion of 'inter-epizootic period' with intermittent low level of vector activity and low rate of virus transmission (RVF)*

- Article or paragraph dedicated to **protecting animals** from vector attacks
 - vector-protected establishment or facility
 - *And notion of 'vector protected quarantine' (RVF)*
 - and/or during transportation → **BT, EHD, RVF, WNV, AH**

- Article or paragraph dedicated to **vector surveillance**: **BT, EHD, RVF, AHS, ASF**

- **All diseases with a tick vector**: import conditions require freedom of ticks (use of acaricide / repellent...)

Other parts of the Code to be considered

- Glossary

VECTOR means an insect or any living carrier that transports an infectious agent from an infected individual to a susceptible individual or its food or immediate surroundings. The organism may or may not pass through a development cycle within the [vector](#).

EMERGING DISEASE

means a new occurrence in an *animal* of a disease, *infection* or *infestation*, causing a significant impact on animal or public health resulting from:

- a.** a change of a known pathogenic agent or its spread to a new geographic area or species;
or
- b.** a previously unrecognised pathogenic agent or disease diagnosed for the first time.

■ Chapter 1.1 “notification of diseases...”

Article 1.1.4 on
emerging disease



*“Veterinary
Authorities **shall**, under
the responsibility of the
Delegate, send to
the Headquarters: ...”*

1. **A notification** [...] when an emerging disease has been detected in a country, a zone or a compartment;
2. **periodic reports** subsequent to a notification of an emerging disease:
 - for the time necessary to have reasonable certainty that the disease... has been eradicated or the situation has become stable;OR
 - **until sufficient scientific information is available to determine whether it meets the criteria for inclusion in the OIE list...;**

■ Chapter 1.5 “Surveillance for arthropod vectors of animal diseases...”

A careful introduction:

“For the purpose of trade, it should be noted

- *that there is **no conclusive relationship between the presence of vectors and the disease status of a country/zone***

And also

- *that **the apparent absence of vectors does not by itself confirm vector-free status***”

Followed by a consistent article 1.5.3 on sampling methodology – sampling plan and sampling methods

Manual of Diagnostic Tests and Vaccines for Terrestrial Animals

No major addition to what's already in the Code – but a more detailed description of the diseases, including vector-borne diseases.

Except for an interesting warning (Bluetongue and Rift Valley Fever) regarding the

*“potential for **attenuated vaccines strains to be spread by vectors, with eventual reversion to virulence or reassortment of vaccine virus genes with those of wild-type virus strains.**”*

Possible evolution of the standards?

		AHC chapter	Last update
<i>Mutiple species diseases</i>	Bluetongue	8.3	2018
	Epizootic haemorrhagic disease	8.7	2016
	Rift Valley Fever	8.15	2016
	West Nile Fever	8.19	2009
<i>Cattle diseases</i>	Anaplasomis	11.1	2003
	Bovine babesiosis	11.2	2003
	Lympy skin disease	11.9	2018
	Theileriosis	11.10	2003
<i>Equine diseases</i>	African horse sickness	12.1	2014
	Equine piroplasmosis	12.7	2007
	Venezuelan equine encephalomyelitis	12.11	1998
<i>Swine diseases</i>	African swine fever	15.1	2017
	Surveillance for arthropod vectors of animal diseases	1.5	2010

Wrapping up

- A significant proportion of the OIE listed diseases are vector-borne.
- Most of them are addressed by a specific chapter of the Code.
- Vector-borne diseases are mainly addressed “vertically” within the OIE standards
- Chapter 1.5 on the surveillance for arthropod vectors is the only example of a dedicated horizontal approach.
- Where no specific chapter, one can refer to horizontal chapters - e.g. 1.1.4 on emerging diseases, or 1.4 on surveillance, etc. – to establishing appropriate trade requirements.
- Many chapters have been recently updated; very significant evolutions are unlikely at this time.

THANK YOU FOR YOUR ATTENTION