# Introduction of WOAH Standards on FMD surveillance

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World Organisation for Animal Health
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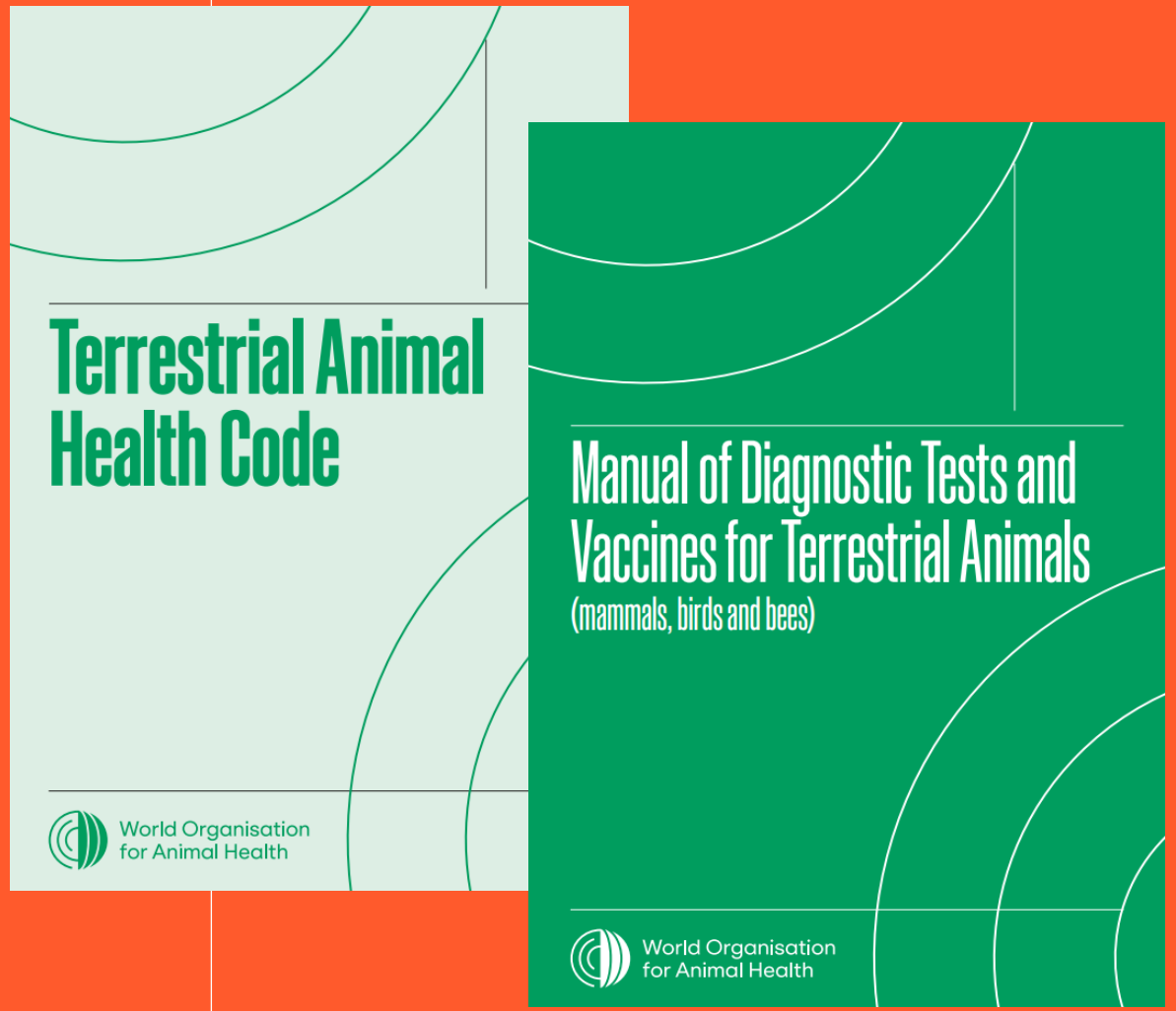
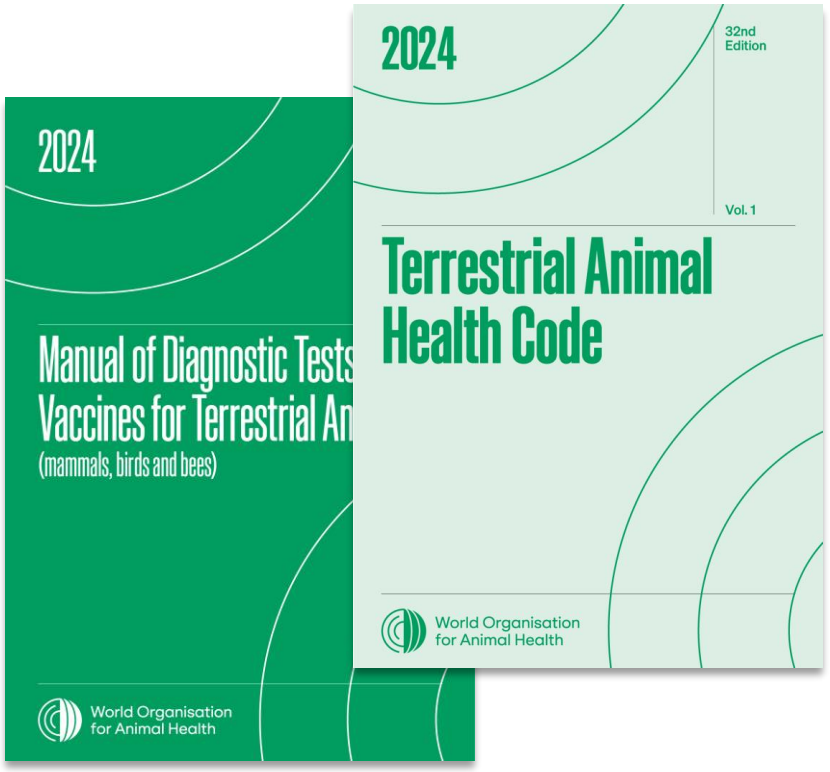
# WOAH Standards on Foot and Mouth Disease



# International Standards of WOAH




***Terrestrial Code – Chapter 8.8.***

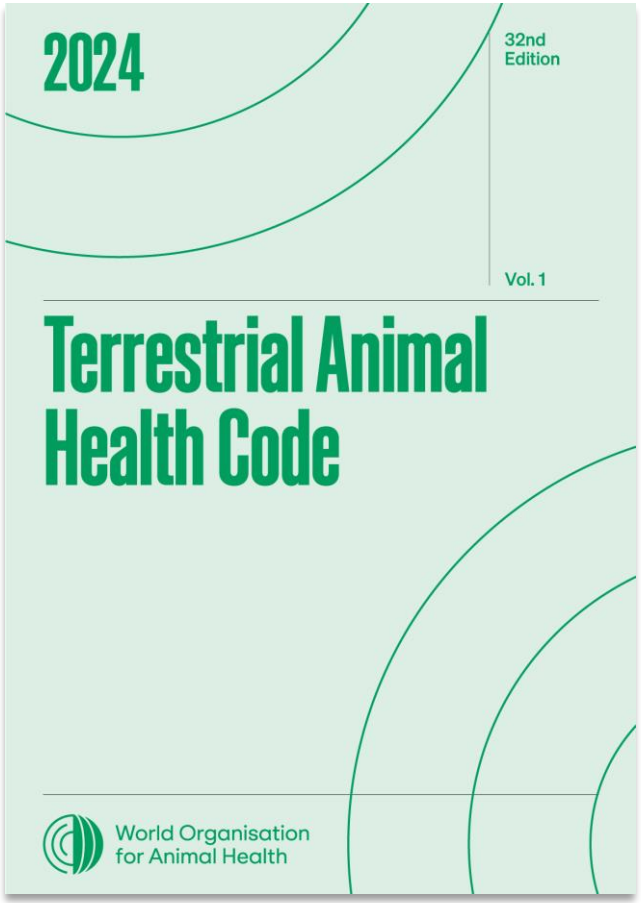
- Significant revisions adopted in 2024

***Terrestrial Manual* – Chapter 3.1.8**

- Ongoing revisions, changes proposed for adoption at the 92nd General Session

# Chapter 8.8. Infection with FMD virus



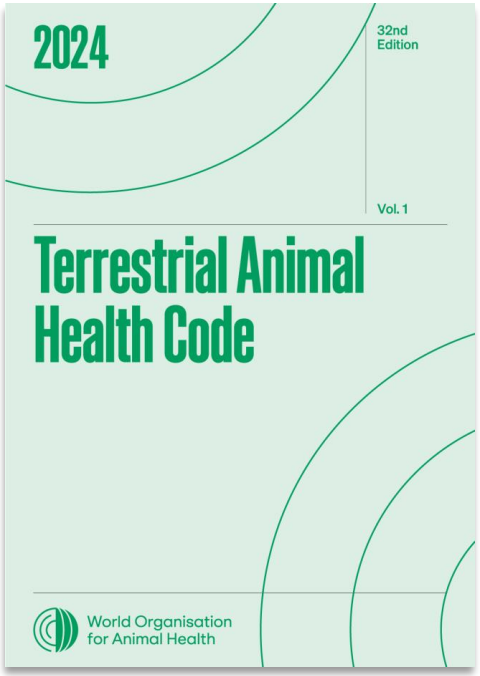



| Article | Topic/provision |
|---|---|
| 8.8.1. | General provisions, including case definition |
| 8.8.2 | Safe commodities |
| 8.8.3 to 8.8.11 | Articles related to status:<br>FMD-free country, zone compartment (without & with vaccination)<br>Protection zone / Containment zone / Recovery of free status |
| 8.8.12. to 8.8.33. | Recommendations for importation of commodities from<br>- FMD-free countries, zones, or compartments<br>- FMD-infected countries or zones |
| 8.8.34 to 8.8.41. | FMD virus inactivation |
| 8.8.42. | Requirements for endorsement of an official FMD control programme |
| 8.8.43. to 8.8.45. | FMD surveillance:<br>General principles, Methods,<br>Use and interpretation of serological tests |

# Chapter 8.8. Infection with FMD virus



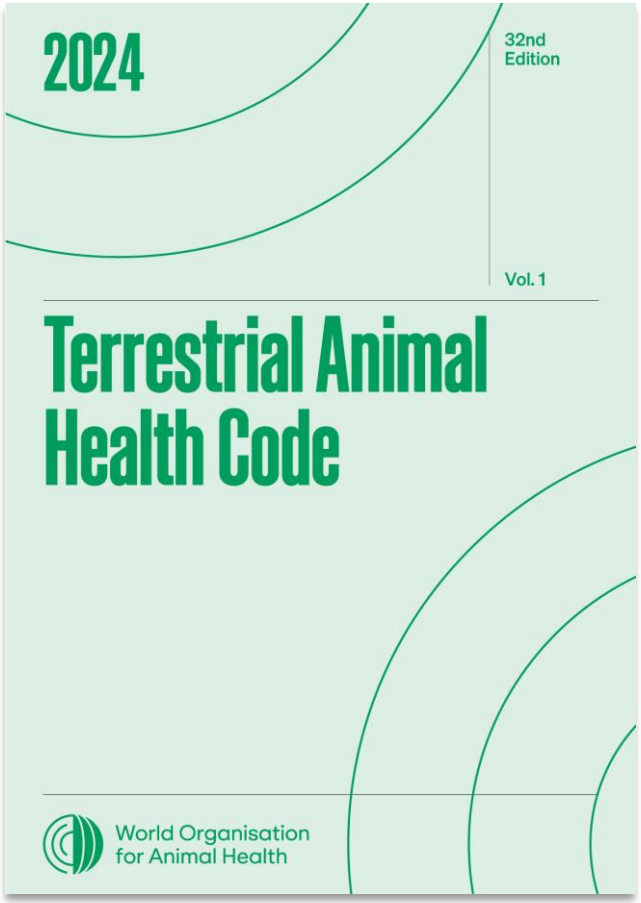
## *Main changes in the last edition (2024)*




- ✓ Inclusion of a list of safe commodities [Article 2]
- ✓ Provision on **introduction of FMD-vaccinated animals** into countries/zones free from FMD where vaccinated is not practised [Articles 8.8.14. & 8.8.15.]
- ✓ Elaborated provisions regarding the establishment of a **Protection Zone** (within an FMD-free country/zone) in face of threat [Article 8.8.9.]
- ✓ Options for **shorter waiting periods** for recovery/reinstatement of FMD-free status [Articles 8.8.11. & 8.8.43. Point 7]
- ✓ Recommendations for importation of **fresh meat** of **bovines** [8.8.24.] **pigs** [8.8.25.], **sheep and goats** [8.8.26.] **from FMD-infected countries/zones**

# Chapter 8.8. Infection with FMD virus



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# Passive surveillance for FMD



Passive surveillance, or clinical surveillance, is an essential component of FMD detection and relies on the **routine reporting of suspected cases by sensors or field observers** (and, on the sensors, animal keepers, veterinarians, and other stakeholders).

- The sensitivity and specificity of clinical observations depends on the **criteria used to define a suspected case** and, on the sensors,
- The **case definition** should be standardised.
- Ideally, both positive and those observations ruled out should be recorded and analysed as indicators of the strategy.
- This approach is crucial for the early detection of potential outbreaks and contributes to overall disease surveillance.

# FMD case definition: Article 8.8.1. Point 3



a) **FMDV has been isolated** and identified as such from a sample from a susceptible animal; OR

b) **antigen or nucleic acid specific to FMDV** has been detected in a sample from a susceptible animal, showing clinical signs consistent with FMD, or epidemiologically linked to a confirmed or suspected case of FMD, or giving cause for suspicion of previous association or contact with FMDV; OR

c) **antibodies** to structural proteins (SP) or non-structural proteins (NSP) of FMDV, that are not a consequence of vaccination, have been detected in a sample from **a susceptible animal**, showing clinical signs consistent with FMD, or **epidemiologically linked** to a confirmed or suspected case of FMD, or giving cause for suspicion of previous association or contact with FMDV.

## Codes and Manuals

The World Organisation for Animal Health (WOAH) Terrestrial and Aquatic Animal Health Codes provide standards for the improvement of animal health and welfare and veterinary public health worldwide, including through standards for safe international trade in terrestrial and aquatic animals and their products. The manuals provide a standardised approach to the diagnosis of the diseases listed in the Terrestrial and Aquatic Codes.

https://www.woah.org/en/what-we-do/standards/codes-and-manuals/

# Active surveillance / surveys



It complements passive surveillance and has key objectives:

- Detect FMD virus transmission
- If not detected, support evidence of its absence


**Two-Stage Sampling strategy:**

- ✓ Selection of farms
- ✓ Selection of animals within farms

- Define the epidemiolocal units (e.g. farm, village, etc.)
- It is important to define the target population, which will guide the interpretation of the results and the selection of epidemiological units.
- Regardless of the strategy for selecting epidemiological units, it must be well justified.

## Key considerations (Article 8.8.45.)

- Ensure sampled animals are **identified**, remain on-site, and are **not vaccinated** until retesting is complete.
- In the second sampling, include reactor animals, susceptible animals within the epidemiological unit, and those in contact with reactors in the second sampling, **aiming to sample the same animals as in the first round**.
- If FMDV is absent, antibody reactivity should remain statistically unchanged. FMDV transmission is detected by **an increase in seropositive animals** or **antibody titers** at the second sampling.

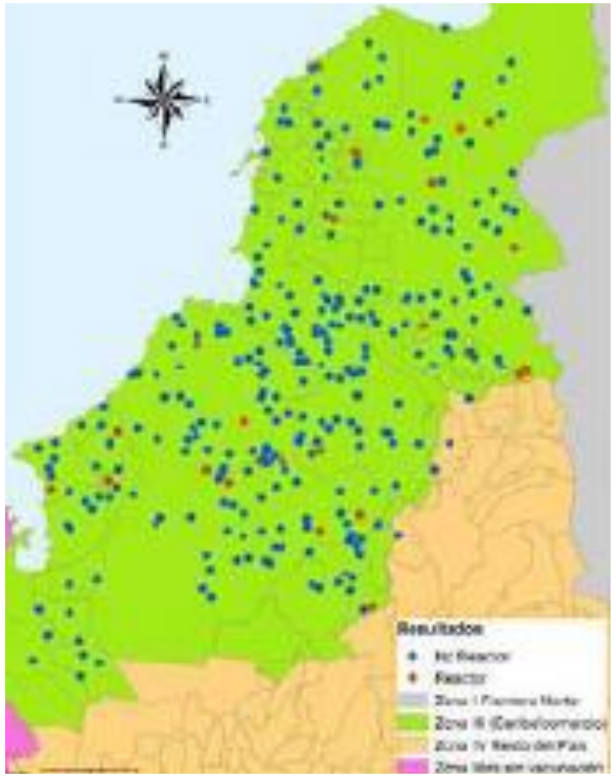
### Use of sentinel animals

- **Unvaccinated young animals** or those without maternal immunity can act as sentinels.
- Sentinels should **stay in close contact** with the epidemiological unit for **at least two incubation periods**—remaining seronegative if no FMDV transmission occurs.

# Visualising and Analysing the Results



It is crucial that the results of the positive reactors are analysed correctly, considering several factors (Article 8.8.45.):




- ✓ Any reactor in serology should be treated as a potential positive, and **it must be verified as such**.
- ✓ The proportion and strength of seropositive reactors is informative.
- ✓ Consider the **sensitivity and specificity of the tests** combined; for instance, sampling in extensive settings with an imperfect test that does not provide 100% specificity requires justification for the absence of “false” positives.
- ✓ Perform paired sampling.
- ✓ Conduct epidemiological and clinical investigations of the susceptible animals present on the premises.
- ✓ When interpreting the results, the **age of the animal** and its **vaccination status** should be taken into account.
- ✓ is also important to investigate the presence of geographic clusters or reactive animals within the same epidemiological unit.

# Key Requirements for Risk-Based Surveillance



**When implementing risk-based surveillance, certain minimum prerequisites must be met to ensure its robustness, including:**

- **Clear objective** for the surveillance strategy.
- **Comprehensive understanding** of the hazard and the risk
- **Strong knowledge** of the population and its interactions.
- **Access to reliable, comprehensive, and up-to-date information,** including well-structured information systems and databases.
- A **well-organised veterinary services structure** to support study implementation.
- **Technical capacity** for study design and a well-structured approach to developing the surveillance strategy.

# Article 8.8.3 : FMD free country or zone where vaccination is not practised



A country or *zone* may be considered free from FMD where *vaccination* is not practised when:

1. **have a record of regular and prompt animal disease reporting;**
2. no infection with FMDV;
3. the *Veterinary Authority* has current knowledge of, and authority over, all *herds* of domestic and captive *wild* susceptible animals in the country or *zone*;
4. the Veterinary Authority has current knowledge of the distribution and habitat of wild and feral susceptible animals in the country or zone;
5. appropriate *surveillance* has been implemented in accordance with:
   a. Article 1.4.6. where historical freedom can be demonstrated; or
   b. Articles 8.8.43. to 8.8.45. where historical freedom cannot be demonstrated, which includes the detection of clinical signs of FMD and demonstrates:
      i. no *infection* with FMDV in unvaccinated animals;
      ii. no transmission of FMDV in previously vaccinated animals;
6. measures to prevent the introduction of the infection have been in place; importations or movements of commodities into the country or zone (between zones within same country)
7. *vaccination* against FMD is prohibited and the prohibition has been effectively implemented and supervised

# Article 8.8.4 : FMD free country or zone where vaccination is practised



A country or *zone* may be considered free from FMD where *vaccination* is practised when:

1. **have a record of regular and prompt animal disease reporting;**
2. no infection with FMDV; no transmission of FMDV
3. the *Veterinary Authority* has current knowledge of, and authority over, all *herds* of domestic and captive *wild* susceptible animals in the country or *zone*;
4. the Veterinary Authority has current knowledge of the distribution and habitat of wild and feral susceptible animals in the country or zone;
5. compulsory systematic vaccination in the target population has been carried out to achieve adequate vaccination coverage and population immunity; based on the epidemiology of FMD in the country or zone, the target population should be defined in accordance with Chapter 4.18.;
6. vaccination has been carried out following appropriate vaccine strain selection;
7. measures to prevent the introduction of the infection have been in place; importations or movements of commodities into the country or zone (between zones within same country)
8. for the **past 24 months** appropriate surveillance has been implemented in accordance with Articles 8.8.43. to 8.8.45.

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# Thank you. Merci

**Official status page:** www.woah.org/official-status
For more information please contact: disease.status@woah.org
**Terrestrial Code and Manual:**
www.woah.org/en/what-we-do/standards/codes-and-manuals/

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