Better Training for Safer Food
Initiative

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Early detection of ASF in domestic pigs

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Key elements for the management of animal diseases:

- PREVENTION (preparedness, bio-security)
- EARLY DETECTION (surveillance)
- CONTROL (response)

Early detection

Builds on the "preventive measures", in particular:

- ✓ Risk Analysis
  - ✓ We know where to expect problems / where to look for it
- ✓ Contingency Planning
  - ✓ We know how we would react once we find it
- ✓ Training / Awareness
  - ✓ Everybody that needs to know about it, is informed and knows what to do

Early Detection System (OIE)

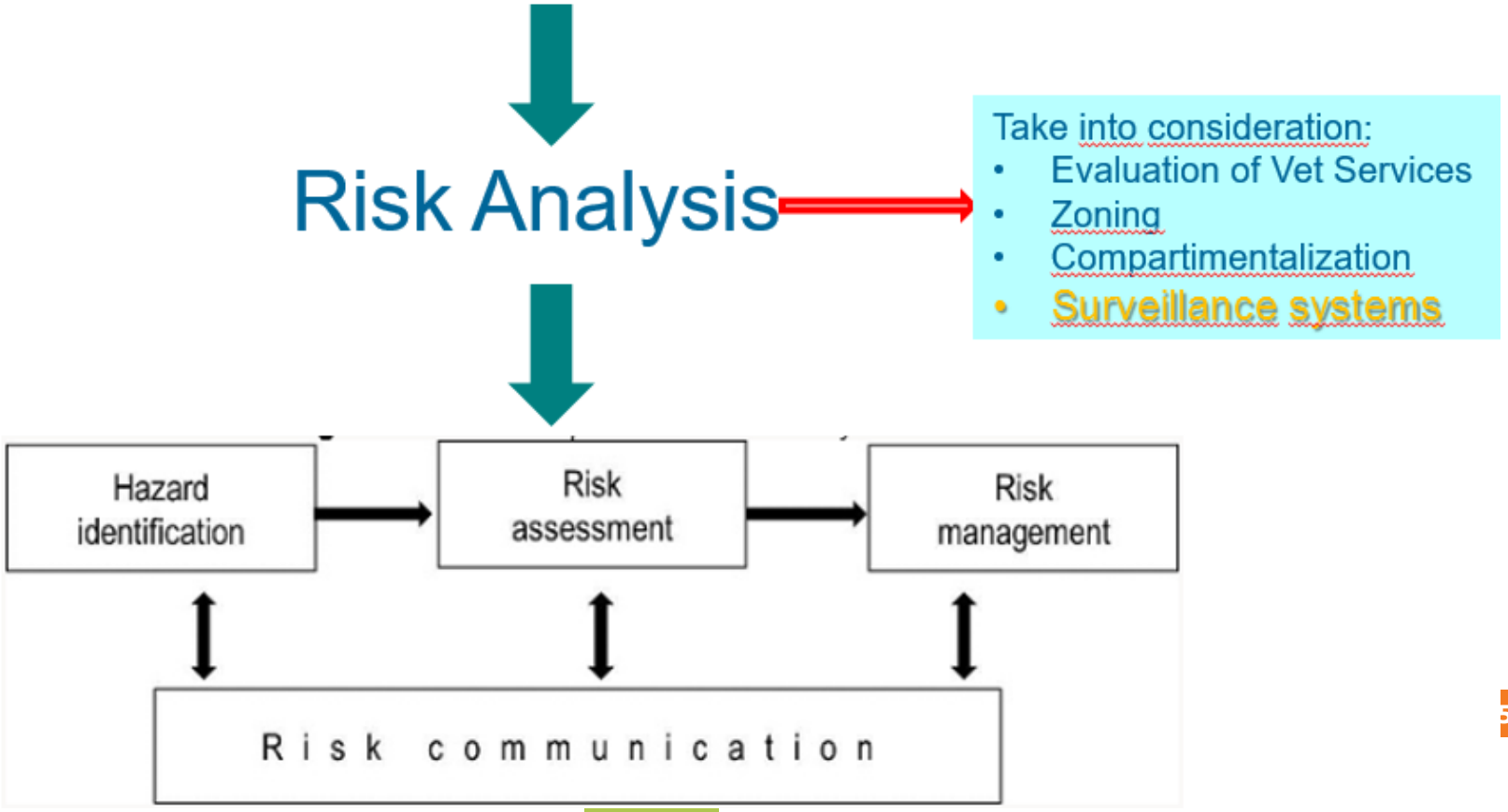
- ✓ *Means a system for the timely detection and identification of an incursion or emergence of diseases/infections in a country, zone or compartment. An early detection system should be under the control of the Veterinary Services and should include the following characteristics:*
- ✓ *Representative coverage of target animal populations by field services;*
- ✓ *Ability to undertake effective disease investigation and reporting;*
- ✓ *Access to laboratories capable of diagnosing and differentiating relevant diseases;*
- ✓ *A training programme for veterinarians, veterinary para-professionals, livestock owners/keepers and others involved in handling animals for detecting and reporting unusual animal health incidents;*
- ✓ *the legal obligation of private veterinarians to report to the Veterinary Authority;*
- ✓ *A national chain command.*

Why focus on early detection

In modern times, where laboratory confirmation is a matter of hours:

Early detection remains the key bottleneck

With limited resources: how to focus?



The impact of ASF varies in different regions of the world

The **surveillance strategy** needs to be tailored to the situation and take into account:

- Prevalent type of pig production system
- Presence of wild and feral pigs
- Presence of African wild boar
- Presence of Ornithodoros ticks
- ASF situation in adjacent territories
- ASFV genotype

Free status

Early Detection

Eradication/Endemicity

ASF Surveillance

An increased likelihood of infection in particular localities or subpopulations exists, targeted sampling could be appropriate. This may include:

- Specific high-risk wild boar populations
- Pigs reared outdoors
- Farms which feed swill
- Areas in which the disease has been previously detected
- Evidence of involvement of ticks
- …

ASF Surveillance

Target Animals

Domestic Pigs:

- commercial farms
- backyards

Wild Boar

- **Surveillance Methods:**

(a) clinical, (b) virological, (c) serological

Based on the situation

Clinical surveillance in domestic pigs

- Effective tool for detecting ASF [Lethality (94.5-100%)].
- Due to the clinical similarity with other *diseases* (e.g. CSF) clinical surveillance always needs follow-up

In Commercial holdings

- *Strict health monitoring programme of pig holdings (pigs sick/dead examined and tested)*

In Backyard holdings

- *Vet inspection on pig slaughtering for own consumption (pigs with lesions/symptoms examined and tested)*

Virological Surveillance

It is important for early detection, differential diagnosis and for systematic sampling of target populations. It should be conducted:

- ✓ The tool to identify and confirm circulating virus / active infection
- ✓ **to investigate clinically suspected cases / follow-up of clinical surveillance**
- ✓ **to monitor at risk populations**

Serological Surveillance

NOT a suitable surveillance type for early detection (retrospective detection of infection)

Has its role in follow-up or detailed field investigations

- ✓ Might provide indications on time of virus introduction
- ✓ Could give indications on field virus attenuation

Active vs. passive Surveillance

Active surveillance follows a surveillance plan

- Action taken by veterinary services
- „disease information" actively collected

Passive surveillance provides a reporting „pipeline"

- Veterinary services „prepare" collection of disease information
- Provision of disease information not under control of the vetereinary services

Passive Surveillance

- ✓ Covers wide areas / entire country
- ✓ Covers the entire population
- ✓ Can provide timely information
- ✓ Is cost efficient

… if implemented properly…

An Effective Passive Surveillance

Requires: REPORTING

the trust of pig owners that report the disease to the Veterinary Authorities:

..rapid diagnosis, eradication

AWARENESS CAMPAIGN

Passive Surveillance

- ✓ Action to report can only be moderated by veterinary services
- ✓ Implementation is not under their control
- ✓ Dependence on stakeholder interaction
- ✓ Requires a sense of responsibility by the farmer

ASF Surveillance

Due to the characteristics of ASF: High Morbidity and Lethality

Passive Surveillance
Key role in Early Detection

any *cases* where clinical signs or lesions are suggestive of ASF should be investigated without delay

Improving the Passive Surveillance

Formulation of „reporting requirements“ to farmers

- Mandatory interaction with veterinarians for commercial farms
- Mandatory reporting of specific clinical pictures
  - e.g. increased mortality or reproductive failure

Linking passive surveillance with other supporting measures for farmers

Improving the Passive Surveillance

Linking passive surveillance with other supporting measures for farmers

- Lower the „interaction barrier" between farmers (in particular backyard) and veterinary services
- Provision of incentives to „contribute"

Early detection of ASF in domestic pigs

Thank You
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Food safety