

Compartmentalization: A Canadian Tool for African Swine Fever Risk

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Topics

- What is compartmentalization?
- Is compartmentalization beneficial for Ontario pork producers?
- What are the steps and timelines?
- Points of discussion

Pan-Canadian Action Plan on African swine fever (ASF)

Did you know?

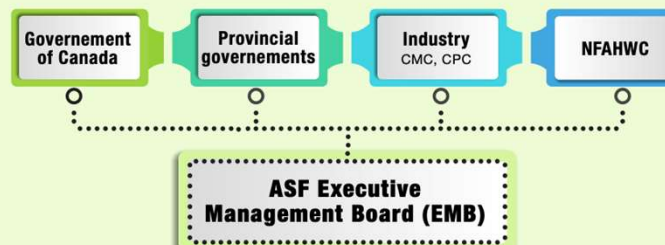
- The Canadian pork industry
- is worth **24 B\$ CAD**
 - employs over **45k** individuals in the producing and processing sectors

One positive case of ASF in Canada could be devastating to the pork industry.

Collaboration for prevention

Federal and provincial governments and industry are coming together to prevent entry and mitigate the impacts of ASF in Canada.

The **ASF Executive Management Board** has been brought together to develop and implement Canada's Action plan on ASF.



Developed by the EMB, the ASF Action Plan is based on four pillars for action to mitigate the risks of ASF:



Pillar 1
Prevention
and Enhanced
Biosecurity



Pillar 2
Preparedness
Planning



Pillar 3
Ensuring
Business
Continuity



Pillar 4
Coordinated
Risk
Communications

What is Compartmentalization?

- Internationally-recognized set of procedures
- Based on OIE guidelines

Allows international market access even if ASF is present in Canada

- There are examples of functioning compartments today

COUNTRY	CANADA	BRAZIL	SOUTH AFRICA	THAILAND	UNITED KINGDOM (UK)	CHILE
BACKGROUND INFORMATION ON THE COMPARTMENT(S)						
Target commodity	Salmonid germplasm	Poultry genetic materials	Pigs and pork	Poultry and poultry products	Poultry genetics	Pork
Target diseases	Specific for each salmonid species, such as infectious salmon anaemia (ISA), viral haemorrhagic septicaemia (VHS), infectious haematopoietic necrosis (IHV), infectious pancreatic necrosis (IPN), and salmon alphavirus (SAV)	Newcastle disease (ND) and avian influenza (AI)	African swine fever (ASF), classical swine fever (CSF), porcine reproductive and respiratory syndrome (PRRS) and foot and mouth disease (FMD)	Avian influenza (AI)	Newcastle disease (ND) and AI	Foot and mouth disease (FMD), classical swine fever (CSF), African swine fever (ASF), and Aujeszky's disease (pseudorabies).

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What is Compartmentalization?

Veterinary Authority = CFIA

Table 1 Comparison of zoning and compartmentalisation [5; 6]

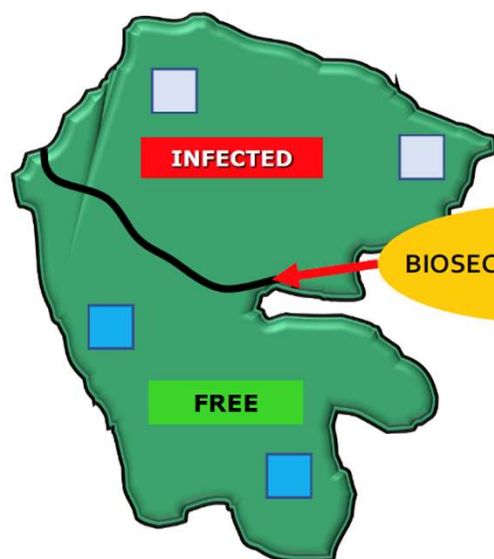
ZONING/REGIONALISATION	COMPARTMENTALISATION
SIMILARITIES	
<ul style="list-style-type: none"> • Aims to establish and maintain an animal sub-population with specific health status within a territory, to contribute to the progressive eradication of a disease while minimising the impact on trade in relevant commodities • Requires consideration of all epidemiological factors and risk pathways for effective implementation • Spatial considerations and biosecurity management are important in the maintenance of the health status of the animal sub-population • Recognition by trading partners is required to facilitate international trade 	
DIFFERENCES	
• Primarily defined by geographical limits	• Primarily defined by common management and husbandry practices relating to biosecurity
• Maintenance of health status is achieved through the application of sanitary measures at the zone level, such as movement control and surveillance, including early detection	• Maintenance of health status is achieved through the application and verification of the integrity of the entire common biosecurity management system implemented in a compartment, and surveillance, including early detection
• Primarily activated in response to disease outbreaks and may not be relevant during 'peacetime' (periods between outbreaks) in disease-free countries or zones	• Primarily and preferably established in 'peacetime' in disease-free countries or zones
• Established and managed by the Veterinary Authority	• Established and managed by the private sector under the supervision of the Veterinary Authority
• The cost for establishment and maintenance is mainly met by public resources, though may also be substantially covered by the private sector	• The cost for establishment and maintenance is met mainly by the private sector

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ZONING vs COMPARTMENTALIZATION

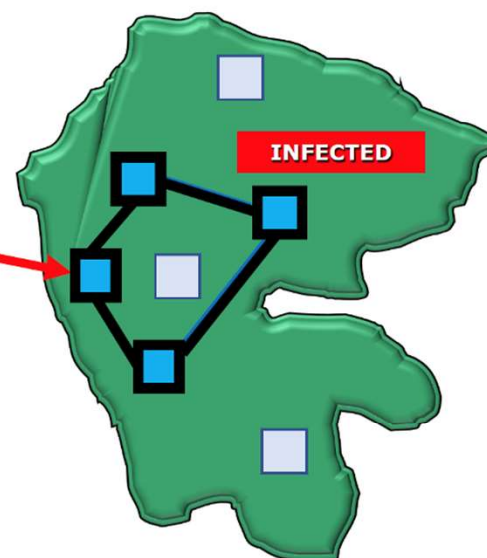
ZONING

- Defined primarily on a **geographical basis** (using natural, artificial or legal boundaries)



COMPARTMENTALIZATION

- Defined primarily by **management and husbandry practices** related to biosecurity.



Is Compartmentalization beneficial for Ontario pork producers?

(....does compartmentalization put Ontario producers at a disadvantage vs. other Canadian pork producers)

- ‘not intended for everyone’
- Biosecurity is ‘above industry standard’
- Many aspects *easier* for a single site vs. multiple sites (small farm vs. larger farm)
- Pork and pigs not differentiated in ‘peacetime’

Allows export of pigs and pork even if ASF is present in Canada

What are the development steps and timelines?

Canadian Compartment Standards

- Farm standards working group – now complete
 - Based on OIE guidelines
 - CPC, CFIA, provinces, industry
 - June 2020 – August 2021
 - Output = **Draft** for national consultation
 - Share with trading partners
- Framework working group (*governance, responsibilities, reflection of OIE guidelines*)
- Meat standards working group
 - Maintenance of compartment through harvest facility to customer



INPUT CONTROL

FEED

- Swill feeding should be banned in the compartment, with corresponding procedures and protocols in place [103].
- The feed for the compartment should be acquired from clean sources, free of ASFV, and transported in clean trucks. It should be ensured that all diets are properly formulated to meet all macro- and micro-nutrient needs of the pigs to avoid any detrimental health effects [22].
- Feed suppliers should have established HACCP programmes to ensure product quality with clear specifications for the production process. Feed suppliers with International Standard Organization certification, such as ISO 9000, indicating verified high standards in production practices, are preferable [22; 36].
- The compartment operator should request feed suppliers to provide relevant information on the procedures/**tests** (e.g. protocols and frequency of testing) implemented to prove that source ingredients are not contaminated [22].
- The compartment operator may institute a mechanism to collect feed samples for **periodic testing for** any potential contamination [22].
- Protocols should be available on how to store the feed at the compartment in proper conditions, where it is protected from possible contamination [36].
- Any feed spill should be removed, following established procedures [53].

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STRUCTURAL AND PHYSICAL REQUIREMENTS

- The infrastructure of the compartment and management and biosecurity practices in place must ensure separation of the compartment premises from the surrounding environment.

PREMISES LOCATION

- The location of an ASF-free compartment should be sufficiently far from wild or feral pig habitats or waste disposal areas that may attract wild and domestic free-ranging pigs. Hills, mountains and rivers may play a role in limiting the risk of infection transmission [101].
- The location preferably must not have any pig farm within 3 km of the compartment [25]. If this is not possible, the compartment must account for the farms within this radius in its risk assessment and mitigation measures.
- The location should not be within 1 km of a sludge, garbage dump or landfill site, livestock, a major road or a slaughter facility or rendering plant [25].
- The location of the compartment should take into account proximity to vegetation that may serve as potential breeding sites for ticks, e.g. marshy and shrubby areas. If ticks are found near such vegetation types, measures to ensure the total mitigation of any ASFV risks must be implemented by the compartment [101].

PREMISES LAYOUT

- An ASF-free compartment must establish clearly demarcated 'clean' and 'dirty' areas for both personnel and visitors in all components. This should apply to changing and shower rooms and to all areas within the perimeter of the compartment [101].
- There must be clear signs at the gate or parking area to provide information on authorised entry through a central sign-in area [25; 101].
- The components of an ASF-free compartment must preferably have only one entrance road and a centralised sign-in office, close to the perimeter and the entrance but sufficiently far from bio-secure areas [25].
- The layout of an ASF-free compartment should be such that offices, feed storage and isolation units are located closer to the entrance and sufficiently far from the main herd-holding pens [25; 101].
- The ASF-free compartment must be surrounded by a robust fence and have a closed entrance to control access by personnel, visitors and vehicles [25]. Components of compartments in different locations should have their own fences, with appropriate cleaning and disinfection facilities.
- Entry to an ASF-free compartment or functional

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Deployment on Canadian Pig Farms

- “Application” – ***likely first applications will be accepted/reviewed q1 2022***
 - Producer, with support from veterinarian, epidemiologist
 - To CPC – *still needs to be finalized*
- “Qualification”
 - Surveillance and generation of records
 - 2-3 months
- “Approval”
 - CFIA
- “Maintenance”
 - Audit – CPC – *still needs to be finalized*

Some examples of standards being developed

- Bringing live pigs into the compartment – **Critical control point**
- *Use of surface water*
- Live pig transport - **Critical control point**
- Surveillance – **Critical control point**
- *Feed and feed ingredients*
- *Raising pigs indoors only*

Thank you!

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