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Technical White Paper

Business Continuity in the Face of African Swine Fever: Compartmentalisation and Company Biosecurity

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Disclaimer

The purpose of this white paper is to provide general information about animal disease control options, international standards in trade in animals and animal products, and issues surrounding the practical implementation of disease risk management measures. Identifying specific disease control and risk management approaches requires consideration of different business environments and objectives, trading patterns, disease risks and regulatory frameworks. Private companies, organisations or individuals intending to implement any of the approaches discussed in this white paper are advised to seek expert advice addressing their particular circumstances.

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Executive Summary

Background: African swine fever global pandemic

There is currently a major global pandemic of African swine fever (ASF). The outbreak is causing mass mortality of pigs, from deaths and culling due to disease and reduced production. It is estimated that there may be a reduction in the global pork production of 10% in 2020. The disease is likely to reduce global dietary protein availability.

Currently, there are still many important pork-producing countries that are free of ASF, but these countries are under threat. This threat arises from the globalisation of economies and the stability of the ASF virus. With the constant movement of people and goods globally, there is an ongoing risk of transmission of ASF. National border inspection authorities cannot, and do not, inspect all travellers and goods as this is too disruptive to the economy. Instead, they predominantly use risk-based inspection techniques to reduce the chance that ASF will be introduced. There is, therefore, a chance that ASF will spread to new countries and affect pork production and trade in those countries.

Problem: Pork-producing companies cannot trade during an ASF outbreak

The introduction of ASF into a country will have a significant impact on individual pork-producing companies. If ASF is detected in a company's pigs, the impact is obvious: all pigs will die or be culled. However, even if no disease is detected within a pork-producing company, the impact on that company can still be significant. Impacts are associated with the control program instituted by national veterinary authorities and the cessation or reduction of trade.

The national veterinary authority will institute programs aimed at eradicating the disease; these are necessary and in the national interest. (Exceptions may be if the outbreak is confined to wild boar or feral pigs.) Programs will include movement restrictions of pigs and pork products. Immediate cessation or reduction of international and sometimes domestic trade will occur as trading partners prohibit imports. Movement restrictions and prohibition of trade will have substantial impacts on pork-producing companies, for example, if finished pigs cannot be moved. This will affect business cash flow and animal welfare. Business continuity of pork-producing companies will be severely curtailed, even with compensation.

Solution: A biosecurity compartment in advance of a national outbreak

The ASF outbreak is a complex and rapidly changing pandemic. Subsequently, the global pork industry is investigating and implementing a variety of mitigation strategies, from economic modelling to research for a vaccine. However for suitable pork producers, an additional and useful tool to ensure business continuity is biosecurity, implemented as a compartment.

A compartment of pigs is defined as a pig population with a different disease status to the rest of the pigs in a country. It is defined and supported in the international animal health standards. In the case of an outbreak of ASF in a country, a compartment of pigs will be a population demonstrably free of ASF, whereas ASF is assumed to possibly be present in the rest of the country's pigs.

Although both compartments and zones may be used to manage disease-free populations in an ASF-infected country, a compartment can be implemented and accepted before an outbreak occurs and focuses on a single integrated management system, rather than geographic boundaries. Establishment of zoning in advance of an outbreak is not always possible or can be threatened with new outbreaks in, or near, a zone.

In other words, a compartment established before an outbreak is a key risk management strategy that can be used by individual companies (or industry bodies) to help protect their livelihoods during an incursion of ASF. A compartment is achieved by excluding ASF (through a biosecurity barrier) and demonstrating freedom from ASF through appropriate surveillance. Private companies can implement compartments in parallel with, and complementary to, government preparation for an incursion. A well-designed and implemented compartment should prevent a company becoming infected by ASF during an outbreak.

For suitable pork producers, compartmentalisation may allow continuity of domestic and international trade even during an ASF outbreak for the company that is operating the compartment.

Compartments can also be of value for companies not involved in export, and in countries already infected, as they provide a level of biosecurity that can prevent the introduction of ASF into a production system.

Implementation of a compartment

Planning and implementation of a compartment should ideally occur before ASF is detected in a country. Once ASF is detected, a compartment is unlikely to be established in the short to medium term. Resources to assist design and implementation of a compartment will be scarce and it can take several months of work.

The major steps that need to be taken, and considerations that must be addressed, to implement a compartment in advance of an ASF outbreak are listed below and discussed in more detail in this paper:

1. consideration of the international standards
2. practical considerations (e.g. company size and integration)
3. biosecurity plan development
 - a. identification of risk pathways
 - b. definition of the compartment
 - c. full assessment of biosecurity
 - d. surveillance for early detection
 - e. traceability
 - f. abattoir assessment
 - g. contingency planning
 - h. workplace culture assessment
4. national standards for compartmentalisation
5. recognition of the compartment by trading partners.

The cost of implementing a compartment will depend on existing capacity and biosecurity within the company. If biosecurity infrastructure is good, then most costs are associated with planning and practice changes. Other costs are associated with the significant cooperation required of veterinary authorities. However, if the biosecurity infrastructure is poor, a company may need additional capital inputs, for example, for exclusion fencing, wash bays for transport trucks, and biosecure entrances.

Compartments are most easily implemented by single companies that have integrated production processes. However, there may also be scope for industry bodies and national veterinary services to work together to establish voluntary schemes that smaller producers can participate in. It will be more difficult for non-integrated packing companies with many pork suppliers to achieve compartmentalisation, but if a packing company is integrated, or has only several major suppliers, compartmentalisation may still be possible through close cooperation with pork producers.

Conclusion

The global ASF pandemic is severe, widespread and presents an ongoing risk to many ASF-free countries with important pig production industries. The consequences of an outbreak to individual companies are considerable. National governments are planning for outbreaks using traditional disease control and eradication approaches. These focus on movement restrictions, culling, disposal and decontamination, surveillance and zoning. During the potentially lengthy process of eradication and regaining national free status, private pork-producing companies are likely to suffer major challenges to business continuity.

This business vulnerability can be addressed in part by establishing a compartment in advance of an outbreak. Compartmentalisation is not the only tool that should be pursued, however for suitable pork producers compartmentalisation can enable trade and pig movements even in the face of an outbreak of ASF. It can assist both exporting and domestically trading companies. Creating an ASF-free compartment can take time, is complex, and requires cooperation from the national veterinary authority and trading partners. It generally also requires inputs from several areas of external expertise. The successful implementation of a compartment is supported by international standards and has potential to address business continuity risks for some producers. For larger pork production companies, company boards and managers should be carefully considering compartmentalisation as one of several key risk mitigation strategies for ASF.

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1. Background

1.1 Situation assessment

African swine fever (ASF) is a highly infectious haemorrhagic disease of pigs that can result in a mortality of up to 100% (Zhou, Li et al. 2018). ASF originated in sub-Saharan Africa but spread to the Caucasus region in 2007 and then into Europe (Beltrán-Alcrudo, Lubroth et al. 2008). In 2018, China reported its first outbreak of ASF (Zhou, Li et al. 2018) and since then, the virus has spread through China and East Asia (OIE 2019). This unprecedented pandemic is likely to reduce global livestock protein availability (Quilty 2019). ASF has led to large declines in the world's pig population (disease deaths, culling and production losses), and there are predictions the disease will reduce global pork production by 10% in 2020 (USDA 2019).

ASF spreads when pigs come into contact with infected pigs or contaminated pork products, pens, trucks or other material. The virus can be present in pork products (even if they have been cooked or frozen) and feed ingredients, and it can also be transmitted via humans wearing contaminated clothing and boots. The virus can remain viable for long periods in blood products, faeces and tissues. There is no cure, nor any commercially available vaccine.

As ASF continues to spread across Asia and parts of Europe, many countries (e.g. Australia, Canada, New Zealand, the UK and the USA) have enhanced their border biosecurity to minimise the potential for the disease to enter, establish and spread. However, with globalisation of trade, international passenger movement, and illegal imports of ASFV-infected pork products, ASF virus is rapidly expanding its distribution around the world. For example, in September 2019, Australian border officials detected ASF virus fragments in 202 out of 418 (48%) samples of tested seized pork products (Australian Government Department of Agriculture 2019). See Figure 1.

Many ASF-free countries have risk-based surveillance at the border. Inspecting every passenger, every import and every item of mail would be too expensive and too disruptive; rather, only the highest risk passengers and items are inspected. This means there is still a chance that ASF may enter ASF-free countries via passengers and items that are judged to be of low risk, especially since two major trading hubs, Europe and East Asia, already have the disease. It is therefore critical that pork producers pre-emptively plan for an epidemic in their country and assess options to address business continuity risks in the event of an ASF outbreak.

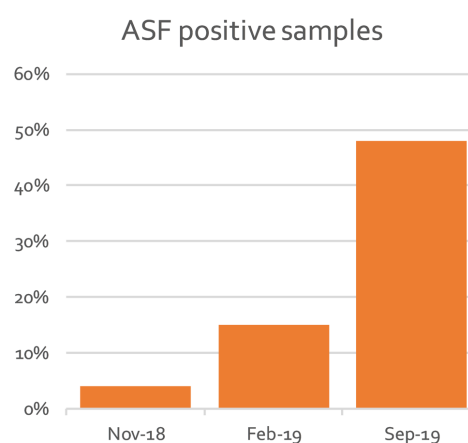


Figure 1: Percentage of confiscated pork products seized at international airports and mail centres in Australia that test positive for ASF fragments over time

1.2 What would happen if an ASF outbreak is confirmed in your country?

Introduction and spread of exotic diseases such as ASF are more likely in small-scale and backyard piggeries with lower levels of biosecurity (Hernández-Jover, Schembri et al. 2016) and perhaps feral and wild pig populations. However, large-scale producers with good biosecurity will also be impacted whether they become infected or not. This is because as soon as an outbreak is identified in a free country:

- A national eradication program is likely to be implemented, with a major impact on moving pigs between premises and to slaughter.
- Some international trading partners are likely to impose immediate trade restrictions.
- Biosecurity will need to be immediately increased to prevent introduction of the virus.

The veterinary authorities of many countries with intensive pig production industries have well-established preparedness plans for managing the response to an emergency animal disease. In most cases, their policy *is to control and eradicate ASF in the shortest possible time*, in line with the World Organisation for Animal Health (OIE) recommendations for member countries. Rapid eradication requires drastic control measures and strict enforcement. These provide national benefit in the long term; however, they can be very damaging for producers in the short and medium term. A major focus of an effective national eradication program is the prevention of movement of pigs and their products through initial cease-movement orders and then controlled movements through permitting. Even with compensation schemes, prolonged movement bans can be catastrophic for business continuity as well as animal welfare.

After the implementation of movement bans, standard approaches for the control of an ASF outbreak would involve surveillance to delineate the size of the outbreak. At the same time, all pigs on infected properties would be culled and disposed of and site cleaning and de-contamination would occur. Feral pig or wild boar surveillance and/or control may also be required. Once outbreaks had been controlled, surveillance to demonstrate freedom from disease and rapidly detect any new outbreaks would be initiated. Governments are generally responsible for managing outbreaks in their jurisdictions, with support from industry and other agencies.

The national veterinary authority is responsible for officially advising the OIE within 24 hours that the affected country is no longer free from ASF, as well as notifying trading partners of the change in status. It is likely that at least a proportion of exports of pigs and pig products would be immediately blocked to countries free of the disease (as would trade between domestic jurisdictions, in a large country). For example, following the outbreak of ASF in Belgium in 2018, which was confined to wild boar, there was a 50% decline in exports (Anon. 2019). This was due in part to non-European Union countries blocking exports and in part to European Union commercial traders discriminating against Belgian pork (Anon. 2019). Trade would not normalise until trading partners were again confident that disease had been eradicated from either the entire country or a defined part of the pig population or country.

2. Problem statement: Pork-producing companies cannot trade during an ASF outbreak

National governments around the world are currently preparing for an ASF outbreak and are focusing on movement restrictions, culling, decontamination, disinfection and surveillance to regain disease-free status. These are necessary actions but damaging to individual pork producers.

In addition, many countries also plan to use zoning. The creation of disease-free zones represents a valuable tool for both progressive disease control and to decrease the trade impacts of a disease outbreak. The establishment of disease-free zones means that unaffected regions may continue trading while the disease is controlled and eradicated in other parts of the country. According to the OIE, zones are geographical areas (often defined by administrative subdivisions) with a different disease status to the rest of the animal population. Zones are usually defined after an outbreak, once sufficient surveillance has been undertaken to confirm the size and distribution of the outbreak(s). Sometimes zoning agreements can be made in advance of an outbreak. However, future outbreaks within or near a pre-agreed zone can invalidate or reduce confidence in a pre-defined zone. Defining or redefining a zone may take many months, during which domestic movement and international trade bans are likely to remain in place. During this time, companies may have limited or no cash flow, and an enormous number of finished pigs have to be held and fed or euthanised for welfare reasons.

Thus, the problem is, if an outbreak occurs in a country, how do unaffected pig producers maintain business continuity? How do they exclude ASF from their farms and, importantly, show they have excluded ASF so they can get back to trading as quickly as possible, or even avoid trade disruption completely?

Whilst the ASF pandemic is complex and rapidly changing and a variety of tools should be used (e.g. from economic modelling to research on vaccines), one tool to achieving business continuity in the face of an outbreak is **compartmentalisation**.

3. Solution: Compartmentalisation in advance of a national outbreak

3.1 Compartmentalisation

For suitable pork producers, compartmentalisation offers a mechanism to protect business continuity and may be implemented before an outbreak occurs. In addition, it can also assist disease management during a disease outbreak.

Such an approach is complementary to national eradication efforts (e.g. zoning) and can also preserve trade and minimise the risk of hog farms becoming infected with ASF in the event of an outbreak. Compartmentalisation supports good biosecurity practice irrespective of ASF risk, which is valuable to prevent many other exotic and endemic diseases.

Like a zone, a compartment is a defined population with a different disease status to the rest of the country. However, there are two very important differences (OIE 2019):

- While a zone is defined in terms of a geographical area, a compartment is defined in terms of the biosecurity barrier applied around an integrated management system. A compartment can therefore be made up of either a single establishment, or multiple integrated farms, under the same ownership or management.
- Zones are usually only defined and accepted *after* an ASF outbreak, but a compartment can be established, approved by the veterinary authorities, and accepted by trading partners *before* an outbreak.

Compartmentalisation therefore offers a key risk management strategy that can be used by individual farms or companies to help protect their businesses during an incursion of ASF. The high level of biosecurity required for a compartment ensures that, even after ASF enters a country, trading partners can have a very high level of confidence that the compartment will remain free, and imported product from the compartment is safe. Compartments are implemented in partnership with the national veterinary authorities and in parallel with other national and industry preparedness activities.

Ideally, ASF-free compartments should be established before ASF is detected in a country. Once ASF is detected, there will be much greater pressure on the veterinary authorities and industry who will be busy assisting in the control of outbreaks. Nevertheless, if immediate eradication efforts do not progress rapidly (as appears, for example, to be the case in China), it is possible to establish disease-free compartments while outbreaks are occurring. This is discussed further in Section 3.4, below.

Compartmentalisation prior to the introduction of ASF ensures an effective biosecurity barrier is in place to greatly decrease the potential for the disease to infect a pork-producing business, and minimises trade impacts of an outbreak. In fact, the OIE has recommended compartmentalisation for similar situations in the past. For example, the OIE Terrestrial Animal Health Standards Commission noted that compartmentalisation could be used in the context of classical swine fever based on the biosecure separation of intensive pig farms from traditional free-range pig farms, which may allow farmed pigs to come into contact with wild and feral pig populations (Kahn and Llado 2014). The Terrestrial Code specifically notes

the suitability of compartmentalisation for ASF (Kahn and Llado 2014). Kahn and Llado (2014) present several global examples, including pig exports from Chile.

Sectors of the poultry industry in several countries have also successfully achieved compartmentalisation to manage the threat of avian influenza. The following video by Aviagen, a poultry breeding company, clearly presents their process of compartmentalisation including interactions with the USA and UK governments:

<http://eu.aviagen.com/about-us/compartmentalization/>

3.2 How to establish a compartment?

To increase the probability of avoiding major business interruptions, suitable companies are encouraged to be proactive in advance of a possible outbreak in establishing and seeking formal recognition of an ASF-free compartment. This involves the establishment of a comprehensive biosecurity plan and the necessary infrastructure to keep ASF out. Additional requirements such as traceability, internal surveillance and a plan for auditing are also necessary. If the proposed compartment meets OIE's international animal health standards and is approved by the veterinary authority, the veterinary authority can submit a self-declaration of a disease-free compartment to the OIE. Provided the self-declaration is credible, this can form the basis of trade negotiations and agreements with overseas countries in advance of an outbreak. These agreements can support trade from that compartment even in the event of an ASF outbreak. In practical terms, the compartment can remain free from ASF for trade purposes, even in the face of a national outbreak.

Companies need to work with the veterinary authority that will approve these compartmentalisation plans and self-declare freedom and negotiate with international trading partners, in advance of an outbreak. Alternatively, governments can work with industry bodies for the same purpose. If the compartment is recognised before an outbreak, no extra actions need to be taken during an ASF outbreak to provide ongoing assurance of freedom – the existing internal surveillance and biosecurity plans are designed to support this. Compartmentalisation therefore provides a means for companies to continue trading, both domestically and internationally, in the event of an outbreak, provided international trading partners are engaged and provide formal prior recognition of the compartment status. Given the shortage of pork internationally, importing countries may have considerable motivation to participate in this process.

Below are the major steps and considerations required to implement a compartment.

1. Consideration of the international standards

The World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) sets out the principles to facilitate trade while minimising the risks of animal disease transmission (or the movement of plant pests and unsafe food). The OIE provides recommendations on implementing the SPS Agreement for animal/animal products trade. The OIE Code nominates compartmentalisation as an appropriate tool to use to facilitate trade, and OIE provides high-level guidelines for implementation.

2. Practical considerations (e.g. company size and integration)

Establishing high levels of biosecurity for an entire production system (including all inputs) can be complicated and expensive. Compartmentalisation may not be suitable for small non-integrated and independent producers. For example, the use of shared resources, such as gilt and nursery pig suppliers, feed trucks, hog transport trucks, semen suppliers and abattoir facilities across many small producers mean that it may be impossible to consider a particular farm to be epidemiologically separate from the rest of the

country's pig production system in the event of an outbreak. It may not be practical or affordable to implement adequate risk management measures to ensure that ASF infection somewhere in another facility could not be transmitted into the proposed compartment.

Large, integrated companies with few inputs from outside their own network are more likely to be able to satisfy the exacting requirements of a compartment and have sufficient scale to justify the investment required to plan and document a compartment.

Nevertheless, for non-integrated and independent producers, there are ways in which they may be able to establish a compartment; these are discussed in Section 3.5.

3. Biosecurity plan development

The company proposing a compartment must develop biosecurity plans by conducting a detailed assessment of the areas listed below, as well as gathering or documenting evidence. This is then provided to the veterinary authority and trading partners. External expertise is generally required to implement and document a compartment, even in the largest companies that employ their own expert pig veterinarians. The expertise required includes skills in animal health, epidemiology, biosecurity, information management, government procedures and the specific requirements of the veterinary authority, pig production, international standards and trade, scientific literature analysis, auditing and HACCP procedures. Members of the team should conduct site visits of the proposed compartment to understand the production system and assess biosecurity.

Key areas to concentrate on for biosecurity planning include:

a. Identification of risk pathways

This involves a detailed assessment of the pork production system and related functional units in order to identify specific risk pathways and define the biosecurity risk boundaries of the compartment.

b. Definition of the compartment

Defining the compartment may appear straightforward, but often requires careful consideration of the whole pig production chain and where its biosecurity strengths and weaknesses lie. All components inside the compartment are considered free from ASF virus, and there must be adequate biosecurity at any point where inputs enter the compartment to guarantee that the virus is excluded. Components that need to be analysed and evaluated for inclusion or exclusion from the compartment include not only production facilities, but also feed and water supply, source of genetic material, transport, equipment, overseas workers that may inadvertently transport the virus, and slaughter and processing facilities.

c. Full assessment of biosecurity

A complete assessment of the biosecurity of the proposed compartment is critical. The focus here is on separating the compartment from sources of infection and documenting how this will occur. This should include consideration of:

- spatial distribution of premises and environmental factors
- infrastructure features (e.g. site and barn layouts)
- current biosecurity plan that addresses each potential entry pathway and documents existing biosecurity practices

- record keeping and documentation
- application and review of the proposed (new) biosecurity plan, including standard operating procedures to implement it
- specific risk-area investigations and mitigations.

d. Surveillance for early detection

A well-designed animal health surveillance system is crucial to having a compartment recognised. This system should be capable of detecting incursions of ASF (and other diseases) rapidly. This will provide confidence to trading partners that disease would be detected if present, and before infected pork products are sold in the importing country. Different approaches to surveillance are available, but the most sensitive surveillance is based on frequent observation by barn staff, immediate reporting of suspicious signs of disease and rapid veterinary investigation. This requires a high level of staff engagement, excellent data management and analysis systems, and access to reliable veterinary and laboratory diagnostic support for exclusion testing when required.

e. Traceability

Identification and traceability of all pigs and pig products are required to allow any suspect cases to be rapidly investigated as in a normal production system. However, in a compartment the emphasis changes. Tracing is used to demonstrate that, ante-mortem, pigs can be verified as originating within the compartment (i.e. are ASF free). Post-mortem, tracing is useful to enable recall of product in the event of an outbreak within the compartment. Traceability enables the operators to be confident that the pigs being sold are indeed free of infection, thereby preserving buyer/trading partner confidence.

f. Abattoir assessment

A single abattoir often slaughters animals from multiple producers, which means that product can become infected or contaminated prior to, or during, the slaughter process. Simple approaches such as formally limiting the duration between unloading the animals and slaughter as well as strict segregation of pork products during post-slaughter processing will prevent cross-contamination with the ASF virus. Both the abattoir(s) and secondary processing facilities must be assessed to ensure that traceability and segregation principles are applied.

g. Contingency planning

A contingency plan identifies actions to be taken in case of emergencies such as biosecurity breaches, natural disasters and other unplanned events, changes in the levels of risk of introduction, as well as suspicion or confirmation of a case of ASF in the compartment. Again, the emphasis is different to a normal emergency animal disease preparedness plan. The contingency plan should focus on protocols for investigation, notification, and possible suspension of the disease-free status of the compartment and product recall. Such a plan is required to assure the veterinary authorities and trading partners that any failure in the compartment will not result in a risk of further disease spread or importation of ASF to a free country.

h. Workplace culture assessment

A workplace culture assessment is critical to identifying the gaps in practices and attitudes of workers that need to be addressed to ensure effective implementation of biosecurity plans. This is important as many biosecurity breaches at the farm level during the current ASF pandemic have been due to failure to adhere to established biosecurity procedures, rather than a lack of effective procedures. Demonstration of

proactive activities to ensure optimal adherence of workers to the established plans will increase partners' confidence in the compartment's disease-free status.

4. National standards for compartmentalisation

The company should prepare a comprehensive and convincing compartmentalisation plan describing all the above aspects of the compartment and submit this to the national veterinary authority. In order to formally approve a compartment, the national veterinary services need to assess this detailed documentation and determine if it meets the national standards for ASF compartmentalisation. In practice, these national standards may not yet exist because compartmentalisation is a relatively newly implemented tool for facilitating trade continuity. Support may therefore need to be provided to the veterinary authorities to assist them with developing evidence-based national standards, built on international experience with ASF. Conflicts of interest should be carefully managed. Some countries, for example, South Africa, have published standards (Maja 2011).

The national standards for compartmentalisation should be formally documented and include biosecurity standards and description of the laboratory diagnostic procedures and procedures for formal supervision and auditing. Adequate supervision and auditing by external government and trading partner authorities is critical for quality control and assurance. Continuous supervision and auditing provides stakeholders with the confidence that the biosecurity and other procedures meet the documented standards.

5. Recognition of the compartment by trading partners

International trade in pork and pork products is driven by business relationships between producers in the exporting country and import companies in the importing country. However, the compartment must be officially recognised by the veterinary authority in the exporting country, and import sanitary regulations are set by the veterinary authority in the importing country. This means that government-to-government negotiation is a critical part of the process of recognising an ASF-free compartment. The national veterinary authority is a key partner in this process, and international negotiation must occur at arm's length from the company after a compartment has been recognised nationally.

3.3 Non-exporting countries

The business impacts of an outbreak of ASF for producers in exporting countries can be catastrophic. Establishing an approved compartment that meets OIE standards provides a strong basis for acceptance by trading partners and supports exporters.

However, compartments are not just useful for exporters involved in international trade. The purpose of a compartment is to provide a high level of confidence that pigs inside the compartment will remain free from ASF, despite the presence of the disease in the country. A compartment is based on strict biosecurity procedures implemented using formal methods supported by good science. Compartments can therefore be effectively used to manage the business risk of introduction of ASF, either at an individual farm level, or across an integrated production system, even in pork producers that trade domestically and do not export.

Recognition by the national veterinary services that a compartment meets OIE standards is less important in this case. However, meeting the high standards set by the OIE provides a greater level of confidence that the biosecurity measures will be adequate to protect the company in the event of an outbreak. Such recognition may provide benefits to the company operating the compartment in terms of permitting of domestic movements of animals and products as well as application of control measures in infected and

control areas, should the country become infected. In addition, there may be reputational advantages of recognition as an OIE-compliant compartment, even for domestic markets.

3.4 Infected countries

It is possible to establish ASF-free compartments in a country that is already infected with the disease. The implementation of strong biosecurity across an integrated production system will ensure that the disease does not enter the compartment, avoiding the major costs of a disease outbreak. This alone may be more than adequate justification for the creation of a compartment, and could represent an effective pathway for producers in currently infected countries to rebuild their production and continue to operate profitably, even if the disease cannot be eradicated from the country in the short or medium term.

If a company is also interested in exporting product, under OIE's international animal health standards, it is possible for such a compartment to export to an ASF-free country, as long as the compartment is accepted by the veterinary services of both the exporting and the importing country. However, it is likely that importing countries would require very high or impossibly high levels of assurance in order to accept a newly established compartment in an infected country.

3.5 Non-integrated and independent producers

This discussion has focused on large multi-farm producers, or those with integrated production systems. It may be difficult for non-integrated and independent producers to afford the investments or manage the biosecurity of inputs (e.g. feed, pigs and/or genetic material) to achieve compartmentalisation.

One approach that may allow smaller producers to benefit from compartmentalisation is the establishment of a cooperative production system with multiple other producers and input providers. A key requirement for the recognition of a compartment is that all components (for example, breeder, grower, feed mills, boars) are under the same biosecurity management system. This is simple if they are all part of a single integrated company. However, it is also possible if they work as a collaborative group to establish a common set of management procedures. As with any other compartment, compliance with the common standard operating procedures would need to be regularly audited, and the compartment should be under the oversight of the veterinary authorities. While this approach is more complex to establish than a single-company compartment, it provides a mechanism whereby collaborating smaller producers can address business continuity risks, share the costs of the establishment of a compartment, and/or maintain biosecure production in the face of an outbreak. Such an initiative may be undertaken by a group of collaborating producers, or could be coordinated by an industry representative body.

4. Conclusion

The global ASF pandemic is severe and widespread and presents an ongoing risk to many ASF-free countries with important pig production industries. The consequences of an outbreak to individual companies are considerable. National governments are planning for outbreaks using traditional disease control and eradication approaches. These focus on movement restrictions, culling, disposal and decontamination, surveillance and zoning. During the potentially lengthy process of eradication and regaining national free status, private pork-producing companies are likely to suffer major challenges to business continuity.

This business vulnerability can be addressed in part by establishing a compartment in advance of an outbreak. This can enable trade and pig movements even in the face of an outbreak of ASF and can assist both exporting and domestically trading companies. Creating an ASF-free compartment can take time, is complex and requires cooperation from the national veterinary authority and trading partners. It generally also requires inputs from several areas of external expertise. The successful implementation of a compartment is supported by international standards and has potential to largely address business continuity risks. For larger pork production companies, company boards and managers should be carefully considering compartmentalisation as a key risk mitigation strategy for ASF.

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