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African swine fever: responding to the global threat



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The three key components of a 'stamping-out' strategy that are most commonly implemented to control an outbreak of African swine fever (ASF) are: destruction, disposal and decontamination (a process that includes disinfection), otherwise known as 'the 3Ds' [1, 2]. All three present significant logistical and environmental challenges. Therefore, preparedness planning is essential to ensure success.

The contagiousness of the ASF virus (ASFV) and the intensive nature of pig farming generally mean that, in an outbreak, large numbers of animals may need to be culled in a short period of time. The effective *and humane* killing of pigs is particularly challenging. The welfare of both the animals and the people undertaking the killing is important; therefore, ensuring in advance that skilled people are available for this task is crucial.

A number of acceptable killing methods are described in the OIE standards, and more than one will be needed, depending on the size and age of the pigs, the availability of equipment, and the facilities. The psychological impacts of destroying large numbers of animals, both on the people who work with the animals and those involved in the destruction process, can be significant, and must be monitored.

The effective disposal of very large numbers of pigs and infective material presents environmental and logistical problems. Methods include burial, incineration or rendering. Burial is the most frequently used method, but there are many environmental constraints, including the risk of leaching into groundwater. Rigorous pre-identification of suitable burial sites and attention to design are essential. The hardy nature of the virus means that sites must be scavenger-proof, particularly where feral pigs are present.

Transport used to convey carcasses and other infective material to disposal sites must be biosecure

The effective decontamination of farms and disinfection of risk material are critical to prevent further exposure. This includes decontamination and disinfection of fomites, such as housing, equipment and vehicles, and the clothes of people who may have come into contact with infected animals or those suspected to be infected (suspects). Only disinfectants that inactivate ASFV should be used, and this must be done in accordance with the instructions on the label. All organic material must be removed and safely disposed of during decontamination. Decontamination may also include the elimination of vectors, as appropriate.

Three OIE *Terrestrial Animal Health Code* chapters provide guidance on the 3Ds [3, 4, 5].

A number of organisations and countries have posted ASF response plans online, and these are useful resources for readiness planning [2, 6, 7, 8, 9, 10].

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DOSSIER

African swine fever – getting prepared

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#African swine fever (ASF), #emergency preparedness, #stamping out.

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