



**Marien Gerritzen**  
Senior scientist animal welfare

## KILLING OF PIGS FOR DISEASE CONTROL PURPOSES

Contingence planning and Animal welfare

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# On farm killing of pigs for disease control purposes

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## Planning and methods from an animal welfare perspective

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# Regulations and guidelines

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## OIE Terrestrial Animal Health Code, Chapter 7.6

[https://www.oie.int/fileadmin/Home/eng/Health\\_standards/tahc/current/chapitre\\_aw\\_killing.pdf](https://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/current/chapitre_aw_killing.pdf)



- AVMA guidelines on euthanasia



- EU regulation 1099/2009

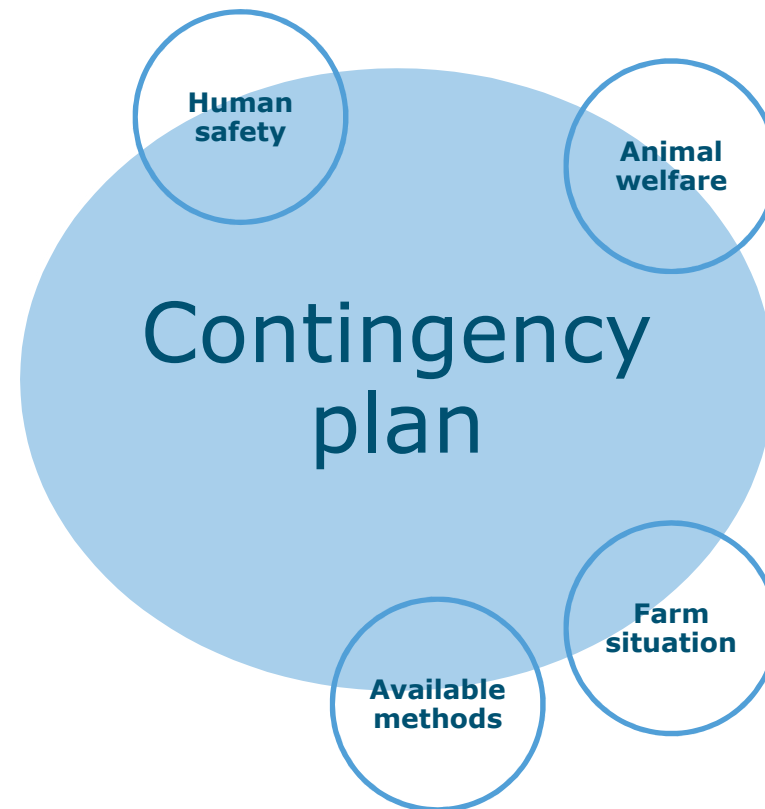


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# Key issues in depopulation at a disease outbreak

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A written and accepted contingency plan is essential during large disease control action



# Contingency plan: Identifying the farm situation

Key issue in a contingency plan is to prevent the disease from spreading.

The first measure to be taken is to stop all or as much as possible movements of people and materials out of the farm.

Second step is to identify the specific farm conditions based on which you can make decisions on; required staff, killing method, safety measures, services and materials, etc.



## Checklist:

- Size of the farm
- Location
- Quality of access roads
- Distance to surrounding farms
- Number and type of buildings
- .....

# Contingency plan: Housing conditions

During an outbreak of a contagious disease you will meet different animal housing conditions.

Before you can decide on the best mode of operation you need to collect as much information on the housing conditions as possible.

## Checklist:

- Size of the buildings
- Natural or mechanical ventilation
- Access doors
- Animals kept inside or have outdoor access
- Obstructions in the building
- Solid walls or (semi)open walls





# Contingency plan: Choose the best killing method

When you make a choice on the method to apply you have to be aware of the limitations of that method.



## Checklist

- Number of animals to be killed
- Type age and size of the animals
- Available methods
- What are the limitations of the method
- What capacity do you need (number of people, equipment,..)
- What are the consequences for the rest of the contingency plan (human safety, animal welfare, costs, removal of carcasses, biosecurity,...)

# Available methods for on farm killing of pigs

## ■ Individual approach

- Electrocution
- Captive bolt
- Free bullet
- Lethal injection

## ■ Group approach

- Gasmixtures (CO<sub>2</sub>, N<sub>2</sub>, mixtures)





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## Available methods: Electrical Killing

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Passing an electrical current through the brain to induce unconsciousness followed by passing an electrical current through the heart to induce death.

### Considerations:

- Individual animal handling
- Limited capacity
- Easy to move
- Controllable killing method
- Check for heart failure



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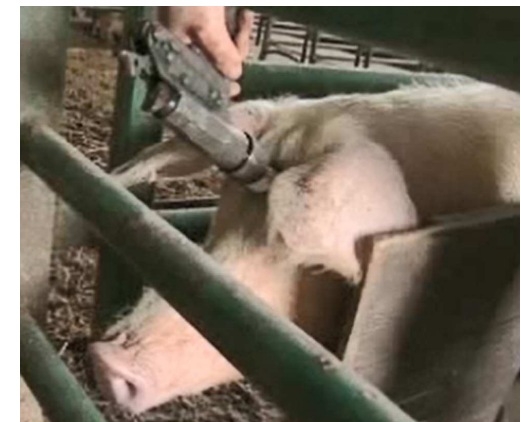
## Available methods: Captive bolt

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A penetrating captive-bolt is applied to induce immediate unconsciousness by a concussive blow to the head and penetrating the brain.

Considerations:

- Individual animal handling
- Limited capacity
- Can be applied in many situations
- Low cost
- Stunning method
- Requires additional killing action (bleeding or pithing)



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## Available methods: Mobile gas unit

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Pigs are placed into a mobile container that will be filled with a gas or gasmixture.

Considerations:

- Handling and moving live animals
- Animals can be moved and killed in groups
- Capacity much larger than other methods
- Moveable between farm locations
- Controllable killing method
- Measure gas concentrations
- Check if all animals died before disposal.



# Available methods: gas filled foam

To apply whole house gassing in non closable buildings the gas filled foam method is developed. A high expansion foam with large bubbles is created with nitrogen instead of air.

## Considerations:

- High Nitrogen / Low oxygen (<1%)
- Construction of the foam is important especially the bubble size
- No recovery or additional method required
- applicable in open buildings or space
- Small scale and large scale applications



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# Attention points during depopulation

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- Choice of method depends on the farm situation
- Respect limitation of a method
- Prevent handling of live animals if possible
- Whole house treatment if possible or kill the animals on farm preferably in doors
- Monitor applied methods and adjust settings if required
- Check if all animals are dead before disposal
- Keep back-up measures available
- training of staff is essential



Dr. Ing. Marien Gerritzen  
Marien.gerritzen@wur.nl



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*Protecting animals, preserving our future*

12, rue de Prony, 75017 Paris, France  
[www.oie.int](http://www.oie.int)  
media@oie.int - oie@oie.int

