

## Humane on-farm killing of animals

Coronavirus gives rise to the possibility that animals may need to be killed on-farm, for example if feed cannot be delivered or animals cannot be transported to a slaughterhouse and would otherwise suffer. It is imperative that these animals are killed humanely.

*“When animals are killed for disease control purposes, methods used should result in immediate death or immediate loss of consciousness lasting until death; when loss of consciousness is not immediate, induction of unconsciousness should be non-aversive or the least aversive possible and should not cause avoidable anxiety, pain, distress or suffering in animals.”*

OIE Terrestrial Animal Health Code, CHAPTER 7.6. Killing of animals for disease control purposes

Only humane killing methods that are in accordance with the OIE Guidelines on the Killing of Animals for Disease Control Purposes<sup>i</sup> and the EU Regulation 1099/2009 on the Protection of Animals at the Time of Killing<sup>ii</sup> should be used.

### Methods that have potential to be most humane

#### Pigs

- Electric tongs – two stage application of electric tongs to head then chest

One of the most humane methods of killing at scale in disease control. This method is cheap and portable. There is no blood loss and a restraint device is not required - only a smaller pen or a raceway.

- Captive bolt followed by pithing

If done correctly, should cause immediate unconsciousness and death, however, in pigs the target area is very small and can be difficult to accurately locate. The pig brain lies deep in the head making it harder to reach with captive bolt and older pigs may have a ridge of bone down the forehead which can prevent penetration. This method requires great skill and is only suitable for limited numbers due to worker fatigue and equipment overheating. See [Humane Slaughter Association guide](#) for detailed information.

*This European Commission [factsheet](#) explains Electric tongs and Captive bolt methods*

- Firearm with free projectile

As with captive bolt, this method poses the issues of locating the target area and penetrating the thick bony skull in many pigs. It is essential to select the appropriate firearm and ammunition in order to kill instantly – see [Humane Slaughter Association guide](#) for information.

## Poultry

- Introduction of high-expansion, nitrogen-filled foam into poultry house

Nitrogen gas is non-aversive and this method induces unconsciousness more quickly than gassing. Birds do not need to be handled, the method is fast and applicable on a commercial scale. Poultry houses do not need to be sealed and it can even be used in open houses. Low-medium expansion water-based foam should not be used as it kills by blocking the airways thus causing suffocation and suffering over a prolonged period of time. A commercial scale nitrogen-filled high expansion foam system is part of disease control contingency in the United Kingdom.<sup>iii,iv</sup> Although CO<sub>2</sub>-filled foam has been trialled, nitrogen-filled foam is preferable as it is likely to be less aversive and produces better quality, more consistent foam.<sup>v</sup>

- Whole house gassing

Large volumes of gas are introduced to the poultry house. The advantages are that birds do not need to be handled, the method is fast and applicable on a commercial scale. Whole house gassing is usually performed with CO<sub>2</sub> which, although aversive at high concentrations, builds up gradually in a poultry house, causing unconsciousness prior to aversive levels being reached.<sup>vi</sup> Care must be taken to ensure adequate gas concentration, minimise time between ventilation shutdown and gas delivery, and avoid subjecting birds to very cold temperatures.<sup>i,ii</sup>

## Inhumane methods

Although the following two methods are listed within the OIE Guidelines and EU Regulation 1099/2009, they have serious welfare risks and therefore require caution and should not be used:

- Killing with high concentration of CO<sub>2</sub> in a confined space, for example in a container: CO<sub>2</sub> at high concentrations is highly aversive - causing pain and distress.<sup>vii</sup> If used, the concentration should be built up gradually to increase likelihood of loss of consciousness at lower concentrations. Care must be taken to avoid subjecting animals to very cold temperatures.
- Cervical dislocation or decapitation: These methods do not effectively stun poultry and therefore should only be used on unconscious birds.<sup>viii</sup>

Any method in breach of OIE Guidelines on the Killing of Animals for Disease Control Purposes or EU Regulation 1099/2009 **must not be used under any circumstances**.

Naturally, this includes methods such as asphyxiating in plastic bags, burying or burning alive and gassing with impure carbon monoxide.

Other methods that are in breach of OIE Guidelines and EU Regulation include:

- Ventilation shutdown – this causes prolonged suffering prior to eventual death from heat stress
- Low-medium expansion water-based foam (firefighting foam) – this kills by physically blocking the airways causing suffocation and suffering over a prolonged period of time.

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<sup>i</sup> [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)

<sup>ii</sup> <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1099>

<sup>iii</sup> McKeegan 2018. Mass depopulation Chapter 17. In: Mench, J., Advances in poultry welfare. Woodhead Publishing.

<sup>iv</sup> <https://www.hsa.org.uk/downloads/killing-for-disease-control.pdf>

<sup>v</sup> McKeegan 2018. Mass depopulation Chapter 17. In: Mench, J., Advances in poultry welfare. Woodhead Publishing.

<sup>vi</sup> EFSA Panel on Animal Health and Welfare 2019. Killing for purposes other than slaughter: poultry. EFSA Journal 17, no. 11 (2019): e05850. <https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2019.5850>

<sup>vii</sup> McKeegan 2018. Mass depopulation Chapter 17. In: Mench, J., Advances in poultry welfare. Woodhead Publishing.

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