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Transforming Farm Animal Health and Welfare Team
Defra

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METHODS FOR KILLING PIGLETS ON FARM

Background

1. The Animal Welfare Committee (AWC) was asked by Defra to address the issue of non-mechanical percussive stunning (blunt force trauma) specifically in piglets; but this advice also has relevance to neonate lambs and kids. This advice was prepared by the Animal Welfare Committee's Welfare at Killing sub-committee and endorsed by the full Committee.
2. Definitions of the key stunning methods:
 - Percussive blow to the head (retained EC Regulation 1099/2009 on the protection of animals at the time of killing, Annex I). Firm and accurate blow to the head provoking severe damage to the brain. Piglets, lambs, kids, rabbits, hares, fur animals and poultry up to 5 kg live weight. Slaughter, depopulation and other situations. Percussive blow to the head is banned in the Welfare of Animals at the Time of Killing (England) Regulations 2015 (WATOK) Schedule 1(26) and Schedule 2(36) for all animals except rabbits and is described in that legislation as a non-mechanical percussive blow to the head.
 - Penetrative captive bolt device (1099/2009, Annex 1). Severe and irreversible damage of the brain provoked by the shock and the penetration of a captive bolt. Currently classified in 1099/2009 as simple stunning so requires a killing method to follow, e.g. bleeding or pithing. All species. Slaughter, depopulation and other situations. Requires a WATOK licence for non-emergency use.
 - Non-penetrative captive bolt device (1099/2009, Annex I). Severe damage of the brain by the shock of a captive bolt without penetration. Currently classified in 1099/2009 as simple stunning so requires a killing method to follow, e.g. bleeding. Ruminants, poultry, rabbits and hares. Slaughter only for ruminants. Slaughter, depopulation and other situations for poultry, rabbits and hares. Shall only be used for ruminants of less than 10kg live weight. Requires a WATOK licence for non-emergency use.

3. In our 2018 Opinion on the welfare of animals killed on farm¹ we noted that “WATOK 2015 is clear that “No person may stun an animal using a non-mechanical percussive blow to the head” (except for rabbits).” This method is, however, routinely used on farms for culling and emergency killing of neonate piglets, lambs and kids. We further stated that “Delivery of a manual percussive blow to the head requires ability and confidence to be achieved swiftly, consistently, accurately and effectively. This is unlikely to be found on all animal holdings.”; and that “[manual movement of the animal against a hard surface] may not deliver the ‘accurate blow’ described by legislation (Council Regulation (EC) 1099/2009, Annex 1)”.
4. Since the publication of that Opinion we understand that a Defra interpretation of Regulation 1099/2009 and WATOK renders a non-mechanical percussive blow to the head unlawful even for emergency killing (except for rabbits). Stricter national rules adopted in accordance with Article 26 of Regulation 1099/2009 can and do apply in respect of emergency killing since Article 26 is not disapplied by Article 1(2) (emergency killing). As the ban on the use of a non-mechanical percussive blow to the head to stun animals is a stricter national rule (WATOK Schedule1, para 26 and Schedule 2, para 36) it is, therefore, also not permitted as a method of emergency killing (other than for rabbits).
5. We have discussed the issue with the Pig Veterinary Society (PVS) and the Pig Health and Welfare Group, both of whom would support an alternative to a non-mechanical percussive blow to the head. However, they expressed concerns that the current alternatives for killing of piglets on farm can be difficult to apply in a practical setting.
6. ‘Agriculture in the United Kingdom 2019’ showed pig marketings (slaughter) at 10,674,000. If this constitutes 90% of pigs born (assuming 10% pre-weaning mortality) then approximately 2% or 237,200 require killing. The 2% of pigs requiring killing is a PVS estimate and so these figures are only indicative. The swift and painless euthanasia of each animal is critical.
7. Currently it is not legal to use a non-penetrative captive bolt device for stunning pigs (or ruminants) on farm, other than for emergency killing. Being defined as a simple stun in Annex I of Regulation 1099/2009 requires the stun be followed up as quickly as possible by a killing method such as bleeding, which farmers may not have facilities for or be comfortable doing, which could have animal health implications and which could cause environmental contamination.
8. Gas stunning is not allowed for killing pigs on farm and electrical stunning is unlikely to be practical for killing neonates on farm. A penetrative captive bolt device or use of a firearm are available alternatives, but ones that have potential risks to operator health and safety (the bolt or projectile can exit the head of neonates and injure operators); possible animal health implications from released bodily materials; stockpeople would find difficult and upsetting to use on neonates; and the former, as a simple stun, would still require a killing method to be applied as quickly as possible afterwards (if the stun did not kill the animal).

¹ <https://www.gov.uk/government/publications/fawc-opinion-on-the-welfare-of-animals-killed-on-farm>

9. Defra's recently published review of WATOK² did refer to our recommendation that the available evidence base provided by researchers³⁴⁵⁶⁷ and reviewed by AWC, is now sufficient to support permitting the use of non-penetrative captive bolt devices of sufficient power as a killing method for neonate piglets, lambs and kids. The weights/ages of neonate animals to be covered by this provision would have to be guided by the research.

Recommendation

10. *Government should change the law to make non-penetrative captive bolt devices of sufficient power a legal alternative method for on farm killing of neonate piglets, lambs and kids.*

On farm practice

11. PVS and others in the pig industry have for some time interpreted regulations to mean that on-farm emergency killing by non-mechanical percussive blow to the head is allowed and that the killing of all neonates is classified as an emergency. On-farm staff may be trained to make sure they are competent to kill effectively. PVS support a change which would permit the use of non-penetrative captive bolt devices for killing neonatal pigs but have expressed concerns that the equipment currently available is not sufficiently regulated or practical to be used in all on-farm situations. PVS saw non-penetrative captive bolt devices as effective, but contend that their use might also lead to a delay in dispatching the piglet; particularly due to fetching the device and restrainer from wherever it is kept and the time taken to apply the method of restraint as recommended in Humane Slaughter Association (HSA) videos.
12. If you are a keeper of an animal then you should be prepared for the duties that go with keeping that animal, and part of that is to kill animals humanely when necessary. We also recognise the need to dispatch a seriously injured animal or one that has not or will not respond to treatment as quickly as possible.
13. Non-penetrating captive bolt devices are designed to be portable. Farmers and stockpeople could carry a suitable non-penetrating captive bolt device around with them to quickly dispatch piglets, as poultry stockpeople widely do. Alternatively, these devices and any restraining equipment could be made readily available for use in farrowing sheds or on outdoor breeding units, with

² <https://www.gov.uk/government/publications/welfare-of-animals-at-the-time-of-killing-england-regulations-2015-post-implementation-review>

³ MA Sutherland, TJ Watson, CB Johnson and ST Millman. Evaluation of the efficacy of a non-penetrating captive bolt to euthanase neonatal goats up to 48 hours of age. *Animal Welfare* 2016, 25: 471-479

⁴ A. Grist, J. Murrell, J. McKinstry, T.G. Knowles and S.B. Wotton. 2017. Humane euthanasia of neonates I: Validation of the Effectiveness of the Zephyr EXL Non-Penetrating Captive Bolt Euthanasia System on Neonate Piglets up to 10.9 Kg Liveweight. *Animal Welfare*, 26: 111-120.

⁵ A Grist*, TG Knowles and SB Wotton Humane euthanasia of neonates II: field study of the effectiveness of the Zephyr EXL non-penetrating captive-bolt system for euthanasia of newborn piglets. *Animal Welfare* 2018, 27: 319-326

⁶ Andrew Grist, Jeff A. Lines, Toby G. Knowles, Charles W. Mason and Stephen B. Wotton. Use of a Non-Penetrating Captive Bolt for Euthanasia of Neonate Goats. *Animals* **2018**, 8, 58

⁷ Andrew Grist, Jeff A. Lines, Toby G. Knowles, Charles W. Mason and Stephen B. Wotton. The Use of a Mechanical Non-Penetrating Captive Bolt Device for the Euthanasia of Neonate Lambs. [Animals](#) 2018 8(4):49

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AWC website: <https://www.gov.uk/government/groups/animal-welfare-committee-awc>

any necessary records of their use. We are aware of the more remote nature of some lambing environments but feel that a portable captive bolt device could still be practically used in these circumstances.

14. The need for the use of a restraining device has been raised as having a negative impact on the willingness to use mechanical devices, but the poultry industry and those in the pig industry already using mechanical devices (many larger integrators) have worked to eliminate this barrier. Further communication between industry vets and researchers could identify practical solutions to restraint.
15. AWC does not believe that every piglet killed on farm automatically falls within the definition of an emergency kill, i.e. animals which are injured or have a disease associated with severe pain or suffering and where there is no other practical possibility to alleviate this pain or suffering (Article 2(d), Regulation 1099/2009). Therefore, only truly critical cases are emergencies. Some piglets will require killing in circumstances that are not an emergency so there is time for preparing and using mechanical equipment.
16. A person using a non-penetrating captive bolt device on piglets for non-emergency killing, would be required to hold a WATOK licence. The assessment of a suitably trained stockperson for this activity would be carried out by APHA field staff, thus assuring competence by an independent assessor. The process of assessment for WATOK licences should be readily accessible to farmers and stockpeople and be adequately resourced. Training should include assessment of an effective stun and kill as well as correct operation of the equipment in relation to the animal, the operator and any other person assisting. A WATOK licence is not required for emergency killing.
17. Some farms do not have penetrating or non-penetrating captive bolt devices and their stockpeople will not have received training in their use or maintenance. This will need to be addressed initially we would suggest by education and persuasion by industry representatives, farm assurance schemes and the veterinary profession, but later by enforcement. Moving forward we hope the assurance schemes will incorporate this into their standards.
18. It is recognised that some farms are of such a size or have rearing systems that require very infrequent killing of neonates. In these cases the use of rarely maintained equipment or an inexperienced operator could result in a greater harm to animal welfare. In such cases the farmer should have a written protocol for the despatch of such animals, which may include asking an experienced person or vet to assist.
19. There will be a purchase cost and running costs for non-penetrating captive bolt devices, including regular servicing, but this would be justified by significantly reducing the risk to animal welfare. There is also a cost to industry should poor practices be brought to the attention of the public.

20. Guidance on the methods available for killing neonate animals should be made available to the farming industry. Information should also be provided on the difference between culling and emergency killing.

Recommendation

21. *As soon as the legal framework is available for non-penetrative captive bolt devices of sufficient power (as specified by research) to be used for non-emergency killing on farm, then piglets, as well as neonate kids and lambs (of age/weight specified in the research), should be culled by these methods and not by a non-mechanical percussive blow to the head. This is an important improvement to the welfare of neonate animals killed on farm and the legislative changes required should be made at the earliest opportunity.*

Yours sincerely

A handwritten signature in black ink on a light blue background. The signature is cursive and appears to read 'Peter Jinman'.

Peter Jinman
Chairman, Animal Welfare Committee