

European Union Reference Centre for Poultry and other small farmed animal

Question to EURCAW-Poultry-SFA

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Type of production: Rabbit

Level: Slaughter

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Background context provided by the solicitor

Inspectors checking animal welfare at slaughterhouses in Flanders noted that several rabbits were still displaying distinctive signs after electrical stunning, such as: eye blinking, positive corneal reflex, breathing, raised head,...

Question

Inspectors checking animal welfare at slaughterhouses in Flanders noted that several rabbits were still displaying different reflexes and behaviours after electrical stunning, such as: spontaneous blinking, corneal reflex, breathing, righting reflex... Could you please provide us with more information about the assessment of indicators of consciousness after electrical stunning in rabbits, and if these reflexes and behaviours are signs of consciousness?

Answer

Introduction:

In the European Union, the welfare of rabbits at slaughter is under Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing (European Union, 2009). This Regulation states that an effective stunning method must induce unconsciousness without avoidable pain, distress or suffering. This is the case when the stunning method induces an immediate state of unconsciousness that is maintained until death by bleeding.

In addition, it is stated that regular checks must be carried out to ensure proper stunning. In case the results of these checks indicate that an animal has not been properly stunned or that regains conscious after stunning, operators must immediately take appropriate corrective measures in accordance with standard operating procedures.

In 2020, European Food Safety Authority (EFSA) published a scientific opinion on "Stunning methods and slaughter of rabbits for human consumption" (EFSA, 2020). This document describes stunning

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methods for rabbits and suggests animal-based indicators (ABIs) for assessing the state of consciousness.

In 2023 the European Union Reference Centre for Poultry and other small farmed animal (EURCAW-Poultry-SFA) published a review aimed at identifying the current stunning methods applied in commercial rabbit slaughterhouses in the EU, describing the ABIs used to assess the state of consciousness and death in practice as well as reporting the associated risks for rabbits' welfare and how to prevent or minimise them.

Description of the ABIs for the assessment of the state of consciousness in rabbit slaughter with electrical stunning

EFSA (2020) pointed out that the state of consciousness of rabbits stunned with head-only electrical devices should be monitored at three key stages:

- Key stage 1: immediately following stunning
- Key stage 2: at the time of neck cutting and,
- Key stage 3: during bleeding

This document also reported a list of ABIs for each key stage according to its validity (i.e., sensitivity) and feasibility. Those that had the highest validity and feasibility were shown as essential indicators while the others were kept as optional. All this information was summarised in a toolbox (Figure 1) and described below.

<u>Righting reflex</u>: Head righting (attempt to raise head), head shaking after stunning. Conscious animals (ineffectively stunned rabbits and those recovering consciousness) may attempt to raise their heads during the three key stages of monitoring. Animals showing this reflex will have to be re-stunned. Unconscious animals will not show the righting reflex.

<u>Breathing:</u> Effective electrical stunning will result in immediate onset of apnoea (absence of breathing). After loss of consciousness, animals will show suppressed or non-rhythmic breathing. At the end of the stunning cycle breathing should be suppressed to the level of being absent, only some gasping may occur. Ineffectively stunned animals and those recovering consciousness will start to breathe in a pattern commonly referred to as rhythmic breathing, which may begin as regular gagging and involves respiratory cycle of inspiration and expiration.

Rhythmic breathing can be recognised from the regular flank and/or mouth and nostrils movement.

<u>Tonic–clonic seizures:</u> Unconscious rabbits show tonic–clonic seizures. Tonic seizure can be recognised by an arched back and rigidly flexed legs under the body, starts immediately after the current passes though the brain and will last for several seconds. It is followed by clonic seizure lasting for several seconds and manifested as leg kicking or paddling. Rabbits without tonic/clonic seizures after application of the head-only electrical stunning are not effectively stunned and therefore considered conscious.

<u>Vocalisation</u>: One or repeated, short and loud shrieking (screaming) at high frequencies. Vocalisation is expected only in conscious animals and can be used as an indicator in all key stages of monitoring.

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However, not all conscious animals will vocalise, and hence, the absence of vocalisation does not always mean that the animal is unconscious.

<u>Corneal reflex</u>: The corneal reflex is elicited by touching or tapping the cornea. Conscious animals will blink in response to the stimulus. Absence of corneal reflex means that the animal is unconscious. Presence of the reflex means that the animal is conscious or regaining consciousness.

<u>Palpebral reflex</u>: The palpebral reflex is elicited by touching or tapping a finger on the inner/outer eye canthus or eyelashes. Absence of palpebral reflex means that the animal is unconscious. Presence of the reflex means that the animal is conscious or regaining consciousness.

<u>Spontaneous blinking</u>: Conscious animals may show spontaneous blinking, and therefore, this sign can be used to recognise ineffective stunning or recovery of consciousness after electrical stunning. However, not all the conscious animals may show spontaneous blinking. Spontaneous blinking can be used as an indicator at all key stages of monitoring.

Toolbox of the indicators

For each key stage, EFSA 2020 proposed a toolbox. Each toolbox contains the selected ABIs, highlighted in blue, the outcomes of unconsciousness, inside the green box; and the outcomes of consciousness for each ABI, inside the red box. In addition, there is a dashed line separating the essential ABIs (above the dashed line) from those that are considered optional or additional (below the dashed line).

Those ABIs which rely on the animal spontaneously manifesting certain behaviours (e.g. spontaneous blinking, vocalisations) should be used with caution since conscious animals might not always perform them.

According to EFSA (2020), a minimum of two ABIs, from those above the dashed line, relevant to each key stage should be used for the assessment of the state of consciousness. Descriptions of the ABIs are reported in the Annex. Any rabbit exhibiting at least one outcome of consciousness indicates consciousness or regaining consciousness and therefore, the rabbit must be re-stunned with backup stunning equipment as soon as it is detected.

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Figure 1. Toolbox of animal-based indicators and flowchart for monitoring the state of consciousness in rabbits when applying head-only electrical stunning. Source: EFSA (2020).

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The ABIs reported by EFSA (2020) are the most valid and feasible. However, information on which indicators of consciousness are the most commonly observed in rabbits when ineffectively stunned, the correlation among them and the repeatability between observers per key stage are not yet explored. For this reason, the EURCAW-Poultry-SFA is carrying out a scientific study to propose a refined list of ABIs aimed at ensuring consistency of controls as it was recently performed in broiler chickens (Contreras-Jodar et al., 2022) and turkeys (Contreras-Jodar et al., 2023).

General recommendations

- To reduce welfare risks due to poor stunning, it is important to assess the state of consciousness in order to detect the animals that are not properly stunned or recover consciousness after stunning.
- To monitor stunning method efficacy, the state of consciousness of the animals should be checked at each of the three key stages i.e. immediately after stunning, just prior to neck cutting and during bleeding using the suggested indicators.
- A set of indicators (a minimum of two indicators) should be assessed.
- To reduce welfare risks due to recovery of consciousness after stunning it is of utmost importance to reduce the stun-to-stick interval as much as possible and to make a proper neck cut.
- Any rabbit showing at least one outcome of consciousness should be considered as conscious or recovering consciousness. If animals show signs of consciousness, intervention needs to be applied i.e. re-stunning of the animals.

Relevant references and other documents

- Contreras-Jodar, A., Varvaró-Porter, A., Michel, V., & Velarde, A. (2022). Inter-Observer Repeatability of Indicators of Consciousness after Waterbath Stunning in Broiler Chickens. *Animals*, 12(14), 1800. <u>https://doi.org/10.3390/ani12141800</u>
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- European Council. (2009). COUNCIL REGULATION (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing. In (pp. 30-30). <u>https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R1099</u>

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