

Question to EURCAW-Pigs

25 March 2020

Question

Received: 18 February 2020

EURCAW-Pigs received the following questions from a Competent Authority:

1. What does EU legislation say about nose ringing of pigs?
2. What is known about the effects of the size and the shape of nose rings on animal welfare, such as the risk of injuries?
3. What is known about possible injuries that occur during transport as a result of pigs wearing nose rings? Do we know anything about seriousness and prevalence?

Answer

Several EURCAW experts contributed to the response below. The EURCAW secretariat did the final editing, and may be contacted for queries: info.pigs@eurcaw.eu.

In short, the answers are:

- Nose-ringing is only allowed when the animals are kept in outdoor husbandry systems and in compliance with national legislation (Dir 2008/120/EC, Annex I, Chapter 1, requirement 8).
- A bull ring (through the septum) and clip rings (through the rim of the nose) are used most often in practice. The application of the rings is painful, and it is very likely that it is pain which prevents ringed pigs from rooting with their snout.
- Bull rings are seldom lost, clip rings are frequently lost after a few months. The loss of nose rings by contact with fences or during transport (like in ear marks) is likely to be accompanied by ruptured tissue, and therefore painful. However, data on prevalence of injuries during transport or in lairage due to sows being ringed are not available.

Further information can be found in the background section below.

Background

- *What does EU legislation say about nose ringing of pigs?*

According to Directive 2008/120/EC laying down minimum standards for the protection of pigs "nose-ringing is only allowed when the animals are kept in outdoor husbandry systems and in compliance with national legislation". Some member states have banned nose ringing of sows (NL, AT, SE and *de facto* DE), whereas in others it is allowed. There are no details about the type of ring, numbers, location or age of application in the EU regulations.

Perhaps surprisingly, nose ringing is not referred to in Regulation (EU) 2018/848 on organic production methods. However, it could be considered a painful management procedure or mutilation which according to this regulations should be kept to a minimum (and subject to national legislation).

The use of nose rings is mentioned once in Reg (EC) 1/2005 on the protection of animals during transport: chapter III, Annex I, states that 'Animals shall not be tied by the horns, the antlers,

the nose rings...'. No reference is made to nose rings anywhere else in the transport regulation. Where the regulation presents rules on fitness for transport, it does not refer to possible injuries due to ringing.

The regulation does however list cases, where 'Animals shall be handled and transported separately in the following cases'. Although nose rings are not specified here, it is stated that it includes 'animals that are hostile to each other'. In practice, this means that mature boars are separated from sows and other boars in the trucks. Unfamiliar sows may also be 'hostile' to each other, but experts say that the loss of rings during fighting between outdoor sows is probably minor. We have no data to support this.

- *What is known about the effects of the size and the shape of nose rings on animal welfare, such as the risk of injuries?*

Natural behaviour

Pigs are highly motivated for rooting and other explorative behaviours to investigate their environment, to forage or to prepare a place to lie (Studnitz et al, 2007). In natural environments, sows spend about 30% of their waking hours rooting and about the same amount grazing (Stolba and Wood-Gush, 1989). Rydhmer and Canario (2013) confirm this and state that "on pasture, feed-related behaviors like rooting, grazing, and exploring substrate account for 75% of daily activity".

When sows are kept outdoors, the rooting behaviour may lead to removal of large parts of the grass cover, potentially resulting in minerals leaching to the ground water and leaving less plants for grazing. Nose ringing reduces or eliminates this behaviour, as rooting probably becomes painful.

Types of nose rings

Two types of nose rings are most commonly used:

- multiple smaller ("boss" or "clip") rings in the upper rim, penetrating the most sensitive part of the nose.
- one bigger ("bull") ring perforating the septum (cartilage) in the middle of the nose.



Clip or boss rings



Bull ring

From: Stafford and Mellor (2015)

Other less common types include rings with spikes, which are pierced through the septum similar to bull rings (as used in ruminants).

Sometimes breeding boars have a nose ring in order to be able to control potential aggressive behaviour towards humans (by using it as a 'handle').

Animal Welfare

The rooting disc is very sensitive and innervated by a high density of sensory nerves. Although not quantifiable in any way, the application of rings by perforating the tissue, the healing of the wound and the use of the nose after ringing are likely to be painful. The use of anaesthesia during application is not common. Some cases of inflammation are reported.

The aim of the ring is to make the use of the nose for deep rooting painful, or at least very uncomfortable. Studnitz et al. (2007) report that the total amount of exploratory behaviour (rooting, manipulating, sniffing and chewing) was not significantly affected by ringing, but rings prevented sows from rooting and increased chewing and manipulation behaviour in comparison to not ringed sows. They did not see signs of rebound in rooting motivation after ring removal.

Eriksen et al. (2006) observed that ringing did not prevent the sow's rooting completely, but rooting was less pronounced when sows were ringed. In addition, Eriksen et al. (2006) and Horrel et al. (2001) observed that ringed sows perform more pawing in compared to not ringed sows. This may be seen as a confirmation that ringed sows are motivated to explore by rooting, and express the motivation in alternative ways when ringed. In addition, Horrell et al. (2001) concluded that nose-ringing in pigs inhibited a range of functional activities, as well as rooting, and elicited more behaviours that suggest a degree of reduced animal welfare.

Effectiveness of ringing and possible alternatives

In the UK (Horrell et al., 2001) and in Denmark (Eriksen, 2006) the effectiveness of nose ringing to prevent rooting was studied. The main conclusion was that nose ringing only partly prevented rooting and the sows developed alternatives, like using the lower jaw. A bull ring was more effective in preventing rooting than clip rings. With clip rings, rooting reappeared within six months post ringing.

Measures to prevent soil damage without resorting to nose ringing were explored by Van der Mheen and Spoolder (2005) and Edge et al. (2005). These studies showed that rooting behaviour was reduced by additional provision of roughage, a designated rooting area (sand pit) and offering access to pasture only after feeding. On hot days a cooling facility on a concrete floor will prevent sows from digging a hole in the pasture to cool down.

- *What is known about possible injuries that occur during transport as a result of pigs wearing nose rings? Do we know anything about seriousness and prevalence?*

This is a relevant question, to which we can find no information in the literature. To our knowledge, ringed sows are typically transported to slaughter under conditions that do not deviate from the transport of not ringed sows. According to expert opinion, removal of rings prior to transport is considered not practical and probably highly stressful for the animals.

Unfamiliar sows may be mixed during transport, and it is possible that ringed sows have a higher risk of snout injuries when fighting. This possibility may also be present during lairage, where sows from different herds may be mixed and fighting also may take place. The incidence and level of aggression during transport and in lairage is not known. Furthermore, experts cannot confirm

that the incidence of injuries is higher for ringed sows when fighting. Still, the risk can be minimised by keeping unfamiliar sows separate.

In addition to possible injuries from fighting, ringed sows may also be injured (including tissue rupture) due to trapping of rings in solid structures (drinkers etc) during transport and lairage. Again, the prevalence of such incidents are not recorded nor published, as far as we know. Avoiding these injuries is important, and can only be achieved through a proper the design of the truck and lairage area. Hinges and door handles should not protrude. Water bowls should be used instead of nipple drinkers.

Relevant references

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