HEALTH

THE UNIVERSITY of EDINBURGH
The Royal (Dick) School of Veterinary Studies

The Jeanne Marchig International Centre for Animal Welfare Education

What you will learn: The welfare impact of health issues for pigs

The differences in the life cycle of wild pigs in nature and pigs in commercial farms.

How most commercial farms for pigs are structured and managed.

Main welfare issues to look for in the pig industry and opportunities to promote positive animal welfare.

Health

Piglet survival

The most vulnerable period for piglets is the first 72h after birth. The main causes of piglet mortality include stillbirth, crushing by the sow, hypothermia, starvation and disease. However, many of these causes interact. For example, a piglet might become chilled, fail to drink enough colostrum and then become too weak to move away from the sow as she changes posture leading to crushing.

For sows with large litters, the birth process is longer which leads to more stillborn piglets and/or liveborn piglets that have experienced oxygen deprivation.

There can be more numbers of low birth weight or runt piglets that are more vulnerable or in need of specialist care. Sows with more piglets than functional teats (see **Nutrition**), and challenges of artificial rearing also contribute mortality risks and welfare compromise (see **Physical Environment** and **Behaviour and HAR**).

However, breeding programmes have also been used to try to reduce mortality (by selecting for numbers weaned not just numbers born and by selecting for heavier birth weights). This has been somewhat successful, especially when combined with improvements to management (e.g. encouraging optimum colostrum consumption by piglets) and the environment (e.g. providing a suitable microclimate with additional heat source for the vulnerable piglets).

Painful procedures for piglets

In some production systems, in the first few days of life, piglets may undergo several management procedures that are painful and stressful.

The most common painful procedures include resection of corner teeth, tail-docking, and, for males, castration.

Tooth resection

At birth pigs are equipped with sharp canines that can inflict wounds on siblings during teat fights or on the sow's teats and udder. If there are enough functional teats for all the piglets, a teat order where everyone has their own teat, is established quite quickly. However, when litters are very large or lots of piglets are moved between litters during fostering, fighting can persist. Tooth resection involves clipping or grinding the tips of the corner (or needle) teeth and is done to reduce the chances of injury.

It is a stressful procedure and, if the operator is not well trained, they can clip too much, break the teeth, and injure the tongue and lips.

Tooth resection can be avoided if litter sizes are better managed, and any fostering is performed before a teat order is established. With effective management solutions, tooth resection should not be a routine practice. If it needs to be done, grinding (by a trained operator) is a preferable method as there is less risk of accidental injury to the piglets.

Tail-docking

Tail-biting in growing pigs and sows housed in groups is a significant welfare and health concern (see more in B**ehaviour and HAR**). Tail-docking involves cutting off part of the piglet's tail to reduce the risk of tail-biting later in the pig's life. The removal of the tail reduces the level of interest that the tail stimulates in other pigs but does not fully prevent tail biting. It is acutely painful, commonly done without anaesthesia or analgesia, and is associated with neuroma formation as nerves attempt to regrow at the tail stump. Neuroma is a nerve tissue growth that is often associated with pain and commonly arise after amputation or trauma.

Tail docking wounds can be a route for infection in the future. Reducing widespread tail docking is a major aim of commercial pig welfare and producers need to make sure risk factors for tail biting are reduced before resorting to docking. As tail-biting is often considered as redirected foraging behaviour, lack of environmental enrichment is one of the main reasons for tail-biting. Improvements in the environment for all ages of pig will reduce the need for tail-docking (see **Physical Environment**).

Castration

The main purpose of castration is to prevent boar taint, which is present in the meat of some entire males once they reach puberty. Boar taint is an unpleasant odour that can be released during the cooking of pig meat from entire male pigs. Other benefits of castration include reducing injuries via aggression and mounting and unwanted pregnancies.

Although banned in several countries, castration without pain relief is generally routinely practiced in global pork production. It is performed surgically without anaesthesia or analgesia in the first week of a piglet's life, with the testes removed and the spermatic cord cut. Castration is stressful and painful if not performed with analgesia and anaesthesia. Pain is immediate and can last up to 5 days after the procedure. The EU recommendations say that member states should adopt a voluntary practice of only performing surgical castration of pigs with anaesthesia and/or prolonged analgesia and that it should be prohibited from 2018.

Castration persists but there are alternatives being practiced including rearing intact males and slaughtering at a younger age before puberty; using immunocastration (a vaccine that inhibits hormone production such as testosterone and reduces testicular development); and using sex specific semen to breed only females.

Nose ringing adult pigs

Pigs farmed outdoors root and dig up considerable quantities of soil. To prevent digging and rooting behaviour and consequent damages to the pasture, pigs (especially sows) may have rings, clips, or pieces of wire placed in their noses.

The rings may be purpose-designed for pigs and placed in the nasal septum, or clips or pieces of wire placed through the cartilage at the top of the snout. Rings are placed when the animal is restrained securely, often using a nose loop. This procedure is painful, so local anaesthesia and sedation should be used during ring placement.

Rooting behaviour is an activity that pigs favour, even when they have access to ample food. In addition to the pain caused by the procedure, the pain induced by movement of the rings during foraging is probably quite significant.

A ring in the septum would permit gentle rooting and may be a reasonable trade-off between the welfare of the sow and protecting the pasture when sows are housed outdoors.

Diseases and other health conditions

Besides the welfare issues discussed previously, health conditions that are common in pig farms are fertility problems, diarrhoea (particularly in suckling and weaning piglets), respiratory problems, injuries (skin and tail lesions, lameness, vulva lesions, joint swellings), mastitis, metritis, agalactia and parasites. There are also a number of endemic diseases controlled by vaccinations. Most of these conditions are multifactorial and can be triggered by many causes. Improving the general health and welfare of the herd will consequently reduce incidence of diseases and health conditions. Keeping data from the herd (fertility, birth body weight, weaning body weight, body condition score, etc) will also help to identify possible risk factors related to feeding, management and housing that may be contributing to the prevalence of health problems.

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