

Welfare of PIGS

Around half of the meat consumed in the world is pork, with approximately 250 million pigs reared annually in the EU for meat production. In the UK, around eleven million pigs are slaughtered annually¹, whilst there are approximately 500,000 breeding pigs² (sows, gilts and boars). A variety of housing and husbandry systems are in use, including both indoor and outdoor production systems. Both can provide good living conditions, but some farming methods have ignored the pigs' needs by treating them as production units rather than fascinating and intelligent creatures with innate behavioural and physical needs.

Pig natural history and behaviour

Like all farm animals, modern farmed pigs have been bred from wild ancestors. Domesticated pigs are believed to be descendants of the native European wild boar (*Sus scrofa*). Until the 17th Century pigs in the UK were virtually pure descendants of the European wild boar. Such breeds were characterized by long, narrow bodies and long snouts, and strong rusty-coloured bristles. However, during the 18th and early 19th Centuries, a number of pigs belonging to a markedly different type which originated in China and South West Asia, were introduced into Britain. It is from a combination of these breeds that modern pigs/commercial breeds were developed. Wild boar still exist in the UK today, having been re-introduced on wild boar farms in the early 1990s. Several feral populations have since become established as a result of escapes or deliberate releases.

The main commercial pig breeds used in the UK are the Large White, Landrace and Welsh, although the



Wild boar sow with boarlets

majority are cross-bred, being mixed with Duroc, Pietrain or Hampshire. Cross-breeds are thought to have better meat quality, be easier to handle, have a higher reproductive performance, and improved growth rate and carcass quality. Before domestication, pigs were forest animals feeding on a variety of plants, insects and even small animals. A sow would produce one litter of three or four piglets a year and form a small social group with other sows. She would wean her piglets at around 12 weeks of age. Much of the day would be spent foraging or rooting for food and generally exploring the environment. Although modern pigs are very different in appearance, they still share most of their wild relative's instincts and behaviours.

Pigs are sensitive to extremes of climate and have no sweat glands (except for on the tip of the snout) nor thick hair cover, relying on fat for insulation. In cold weather pigs often huddle to keep warm, whilst in warm weather they wallow in water and mud to keep cool. Pigs forage and root for food (a strong natural behaviour), and eat a wide range of vegetables and animal products, including carrion. In terms of senses, pigs rely on smell and hearing more than vision. They have a wide range of vocalisations and a good ability to locate odour sources. Pigs prefer to live in stable families or small groups. However, they can be aggressive to each other, especially if unfamiliar animals are mixed. Boars are often solitary. Contrary to popular belief, pigs are clean animals and if given properly designed living accommodation, will always tend to use one particular area for dunging, thereby keeping their lying/sleeping area clean.

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Commercial pig production

Around ten million pigs are slaughtered annually in the UK¹. The average breeding herd consists of around 710 (indoors) to 980 (outdoors) individuals³. The average rearing/finishing herd is around 2,000.

In recent years, consumer demand for leaner meat has influenced the breeding, housing and management of pigs in order to produce quick growth and a low fat carcass. A result of this is that many of the famous old British breeds of pigs are no longer farmed commercially.

The age/weight at which pigs are slaughtered depends on the primary cut that is required. Pork pigs for small joints and fresh meat are slaughtered at about 55-62kg (15-16 weeks of age), whilst bacon pigs are slaughtered at around 90-100kg (approximately 22 weeks of age). However, there is currently a trend towards increasing slaughter weights. In contrast, an adult sow can weigh more than 300kg.

There are three main stages in pig production: accommodation for pregnant (dry) sows, for sows at the time of giving birth (farrowing) and suckling, and for growing the offspring for meat (rearing and finishing pigs). For each of these stages there is a variety of different housing systems in use. These vary from simple wooden huts to costly and elaborate controlled-environment buildings. The majority of pig units specialise in either breeding or fattening pigs, although some do both.



Outdoor breeding

BREEDING

DRY SOW ACCOMMODATION

Across the world, dry sows and gilts (i.e. young sows) are kept in a variety of housing systems, for example, individual stalls, groups with feeding stalls/electronic sow feeders, groups with food supplied on the floor or in a communal trough, and groups in fields, large yards or in family pen systems. Each housing system can vary with respect to the microclimate, type of flooring, use (or not) of straw or other bedding, diet, and frequency and method of feeding.

In recent years, one of the most contentious issues has been the keeping of dry sows in individual, narrow stalls throughout their pregnancy. These sow stalls restrict movement as the sow cannot turn around, and has only limited movement forwards and backwards. A variation of this is the tether system, in which the sow is attached to the floor by a short chain. Legislation banning the use of the sow stall and tether system was introduced in the UK from the end of 1998, whilst amendments to the EU Pig Husbandry Directive in 2001 meant that the use of tethers was banned in the rest of Europe from the beginning of 2006. The use of stalls throughout a sow's pregnancy was prohibited in the rest of Europe from 2013; however, their use is still permitted for up to four weeks after service (mating or artificial insemination).

The alternative to sow stalls, group housing, has the potential to provide a much better environment, giving more freedom to move and allowing social contact. However, it can lead to problems with aggression, particularly when new sows join the group and during feeding. One method used by some producers to help prevent aggression or bullying is a computer combined with an electronic sow feeder. Each sow wears a collar with a unique electronic ID which allows individual recognition when the animal chooses to enter a box containing a feed dispenser. Exactly the right amount of food (as pre-programmed by the farmer) for that particular sow will then be delivered and each sow can feed alone without interference from others. Around 40 per cent of breeding sows in the UK are now kept outside under free-range conditions. Outdoor dry sows are kept in groups with access to large bedded huts that provide shelter and a dry lying area. Outdoor pigs have more space, and can explore their environment, forage and hence express their natural behaviours. However, if land or climatic conditions are unfavourable, welfare problems can result. Standards of management must be high to ensure adequate welfare standards are maintained.

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GIVING BIRTH (FARROWING)

Around 1-2 days before farrowing, the sow will attempt to build a nest, whether or not bedding material is available. In the wild, the sow would find a quiet area to farrow. Average farrowing duration is 2-3 hours depending on the age and experience of the sow and factors such as stress.

During farrowing the sow lies on her side. At intervals between births she may change sides, stand up or sit down. Such movements can increase the risk of the sow crushing her piglets. There is a huge weight differential between sows (weighing as much as 300kg) and newborn piglets (1 – 2 kg), and overlying/crushing can account for a number of piglet deaths prior to weaning. The greatest risk is when the sow is restless. The incidence of overlying depends on the sow's previous experience, breed, strain, temperament, health and the accommodation she is in.

The majority of sows in the UK (around 60 per cent) farrow indoors in farrowing crates, into which they are placed up to a week before they are expected to give birth. Farrowing crates are restrictive pens which prevent the sow from turning around, and which aim to reduce the risk of the sow lying on and crushing her newborn piglets. Farrowing crates have a 'creep area' with a heat lamp and food source to attract the piglets away from the sow when not suckling with the aim of reducing over-lying/crushing.

Around 40 per cent of sows give birth to their litters outdoors in individual straw-bedded shelters called arcs.. The sows are moved into areas with access to these individual arcs prior to farrowing, and straw is provided which the sows will use to build a nest. Whilst the sow can come and go freely, movement of the piglets out of the arc is restricted for the first one to two weeks by a barrier ('fender') placed around the entrance. This ensures the piglets remain in the warmth and security of the arc during their most vulnerable phase, when they are more prone to chilling. Recently, there has been renewed interest in indoor alternatives to the farrowing crate, so called free farrowing systems. Researchers, both in the UK and abroad, have been investigating possible designs which allow the sow to turn around and nest build, whilst protecting her piglets from crushing. So far results are promising and some farmers are using them in practice but more large scale trials and practical implementation are required to provide greater confidence.

Regardless of whether the sows are kept indoors or outdoors, following weaning at around 21-28 days of age, the weaned pigs are moved into separate accommodation for growing/finishing, with groups of pigs of a similar age or size being kept together.



A sow in a farrowing crate.

GROWING/FINISHING

Almost all pigs (96 per cent), including those born outdoors, are moved to indoor accommodation for the growing/finishing period, either immediately after weaning (often called an 'outdoor bred' system) or when they are around 10 weeks old ('outdoor reared'), although some systems provide an outdoor run together with an indoor area. Only 4 per cent of growing pigs will spend their entire lives outdoors. As with sow accommodation, a wide variety of systems are in use, from pens in large straw barns housing 200 pigs, to kennel and run systems housing 20-25 pigs per pen.

Approximately 65 per cent of growing pigs are kept in indoor straw-based systems. However, many are kept in barren, crowded pens with only slatted or concrete floors on which to live. Around 30 per cent of growing pigs are kept in slatted accommodation, which due to the system of manure (slurry) removal, does not allow the use of straw or similar manipulable material. Enriching the growing pigs' environment with some form of rooting material, such as straw, can help to reduce problems such as tail biting and may even lead to improved growth rates.

Most growing/finishing pigs are slaughtered between 18 and 30 weeks of age, depending on commercial requirements (see page 2).

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Key welfare issues

Inadequate stimulation (barren environments) and lack of space can worsen problem behaviours such as tail biting and aggression. Lameness is also a big problem caused by joint disorders and/or infection and foot injuries. The latter can be caused by factors including inappropriate flooring indoors and stony soils in outdoor systems.

GROWING/FINISHING PIGS

Tail docking

The majority of piglets have their tails docked shortly after birth, a practice used by many producers to try to reduce the risk and impact of tail biting by other pigs as they get older. Tail biting, a behavioural problem in pigs caused by a number of factors, can lead to serious injury and hence health and welfare problems. It is also a symptom of other welfare problems, indicating some form of physical or mental stress. Whilst legislation prohibits the routine docking of piglets' tails, the practice can be carried out provided other measures have been taken first to try to reduce tail biting. Such measures include the provision of environmental enrichment material (e.g. straw), reducing the stocking density, and increasing the amount of feeding space available.

Teeth clipping

Piglets may have their needle teeth clipped or ground down to remove the sharp ends that can cause damage to the sows' teats and to other piglets. Both teeth clipping and tail docking can cause pain, as well as distress from being handled.

Castration

In the EU, it is legal to castrate male piglets without anaesthetic, provided it is done before seven days of age. However, whilst also legally permitted in the UK, this is no longer a common procedure, although it is still widely practiced elsewhere in Europe and beyond. It is estimated that 80 per cent of male piglets in the EU are castrated each year (approximately 100 million piglets), many without anaesthetic/analgesic. Castration is carried out to reduce the risk of 'boar taint', an unpleasant flavour, sometimes noticeable to

some consumers, in meat from boars after they reach sexual maturity. Castration also reduces aggression in older pigs and makes managing them easier. However, in the UK, such issues are less of a problem as pigs are generally slaughtered at lighter weights, before they have reached sexual maturity. Various initiatives have emerged with the aim of phasing out surgical castration in Europe, such as the 'European Declaration on alternatives to surgical castration of pigs' launched in 2010. This voluntary declaration aims to ensure the practice is only performed with prolonged analgesia and/or anaesthesia, though its goal of a total ban by 2018 has yet to occur. Other potential (non-surgical) alternatives include immunocastration.

Early weaning

Whilst the law sets a minimum piglet weaning age of 28 days (21 under certain provisos), the UK industry norm is 27 days. Early weaning can result in abnormal behaviours such as belly nosing and navel sucking.

Lack of opportunity to express key natural behaviours

Pigs have a strong instinct to root. However, legislation on provision of manipulable material is open to interpretation, resulting in variable requirements across the EU and often inadequate provisions for pigs. Not only does this frustrate rooting behaviour, but it can also cause injury and discomfort. Whilst around 65 per cent of pigs in the UK are reared in straw-based systems, the amount of straw provided varies. Some pigs will have access to a deep layer of straw covering most of the floor area, whilst others will be given an amount that is insufficient to allow them to carry out their desire to root.

Aggression

Aggression can occur in some systems, and can be sparked by factors such as mixing unfamiliar pigs, barren environments and inadequate feeding facilities. In addition, nursing sows with piglets can also be aggressive, as can boars.

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DRY SOWS

Sow stalls were banned completely in the UK in 1999 and in the EU from 2013 (except for four weeks after service). However, they remain in use in many countries outside Europe. These particular systems cause severe welfare problems as the sow is unable

to turn around with almost no space to move forwards/backwards and most have no access to bedding; they are unable to take more than two steps forward or backward throughout most their nearly four-month long pregnancy. In contrast, when properly managed, designed and provided with bedding material, indoor group housing systems for breeding sows can provide very good welfare conditions.

Bedding material provides comfort and an opportunity for pigs to root and forage. This also helps to prevent boredom and stress which, in barren concrete or slatted floor enclosures with high stocking densities, can result in outbreaks of fighting, as well as increasing the risk of problem behaviours such as tail, vulva and ear biting.



10738880 Andrew Fegans/SPICA

Outdoor sow exhibiting nest building behaviour

FARROWING SOWS AND PIGLETS

There are various welfare issues related to farrowing, affecting both the sow and her piglets.

Piglet mortality

In the UK around 12 per cent of piglets fail to survive to weaning. Mortality can be due to a number of factors such as chilling, starvation, disease, overlying/crushing and cannibalism by the sow.

Farrowing crates

Farrowing crates, whilst offering some protection from crushing for the first few days after farrowing, cause a large amount of stress to the sow, as a result of confinement. The inability of the sow to perform the strongly motivated natural behaviour of nest building prior to farrowing, due to both confinement and a lack of bedding materials, further frustrates her.

Nose ringing

Outdoor sows are often nose ringed in an attempt to prevent excessive rooting of the ground. If such rooting occurs on the soil floor of farrowing arcs, resulting in deep hollows in the ground, it can lead to increased mortality of the piglets through crushing, or through chilling as farrowing arcs are placed on uneven land leading to draughts. As well as pain when the nose ring is inserted and the stress of handling, this practice leads to chronic pain; nose rings work by the action of discomfort and pain as the sow goes to root with her snout, causing her to stop.

Evidence has shown that providing bulky feeds to improve satiety can help to reduce rooting, whilst the use of a 'sacrificial' area of the paddock with root crops added can direct sows' rooting to that particular area, reducing rooting within the farrowing area.

Outdoor management issues

Other problems can also result on outdoor units, as a result of inadequate levels of stock-keeper input and skill, inappropriate site suitability (soil type, weather conditions), inadequate shade/shelter provision, restricted access to food and water (particularly in winter), accidents to/predation of piglets, and potentially higher levels of some diseases - though others are less common than on indoor units.

TRANSPORT

Pigs are notoriously bad travellers and can suffer from travel sickness. They also have problems regulating their body temperature, and it is therefore recommended that pigs be fasted for a limited period prior to travel but should always have access to water until loaded. A few pigs have a so-called 'stress' gene (the Halothane gene) which makes them even more susceptible to the effects of stress, such as at the time of loading/unloading and transport, although this has now been bred out of most commercial strains of pig.

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Work of the RSPCA to improve pig welfare

WELFARE STANDARDS

The RSPCA encourages pig producers to adopt the [RSPCA welfare standards for pigs](#), which have been developed to encourage higher standards of pig welfare at all stages of the animals lives.

In the RSPCA welfare standards, the use of farrowing crates is not permitted. An increasing amount of practical experience of indoor farrowing accommodation that gives sows more freedom before, during and after giving birth, but which still achieves comparable levels of piglet mortality from crushing, has become available. Therefore, we believe that closely confining sows cannot be justified. Within RSPCA standards the sow must be able to turn around freely for the duration of farrowing. Additional standards are also in place to specify bedding and space requirement in both indoor and outdoor farrowing systems.

Teeth clipping, nose ringing and tail docking are not permitted in the RSPCA welfare standards, except in exceptional circumstances. Even then, the herd veterinary surgeon and the farmer must write to the RSPCA, seeking farm-specific permission, setting out what other measures have been implemented to avoid carrying out the practice and what future plans are in place to try to move away from the practices. In addition, certain other standards must be met before permission will be granted.

The RSPCA welfare standards require all pigs to be provided with environmental enrichment, in the form of straw or other suitable materials.



RSPCA Welfare Standards for pigs

CAMPAIGNING WORK

In Autumn 2000, we joined with Eurogroup for Animals (an umbrella organisation representing welfare groups across the EU), to launch a campaign to improve EU law on pig husbandry. The RSPCA pressed for improvements to the EU Directive, including a ban on sow stalls and conventional farrowing crate systems, provision of a solid lying area and bedding/rooting material for all pigs, and better training for pig stockkeepers. In June 2001, the EU Agriculture Ministers agreed in principle to ban sow stalls – though not until 2013 – and this duly happened. There was also a commitment to make provision of rooting material to all pigs compulsory, which was also subsequently reflected in law change. However, the wording in the resulting law has led to significant variation in interpretation of the requirement, and many pigs are still not provided with suitable materials.

ADVOCACY WORK

The RSPCA Farm Animals Department Staff represent the RSPCA on a number of government and industry committees, including the Pig Health and Welfare Council. Staff have also been invited to participate in a series of workshops on the issue of piglet castration, which are part of a large EU project. This initiative is looking at the attitudes of people from different countries to various practices and their implications – including surgical castration without anaesthetic, current practices and alternatives such as immunocastration, or leaving males entire (uncastrated).

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WORK TO IMPROVE PIG MEAT LABELLING

The RSPCA has, in conjunction with the pig industry, developed a set of definitions to describe the various methods of pig production that are currently used as labels on pig meat products. Unlike the situation in relation to methods of egg and chicken production, there is currently no legal definition of terms such as 'free range' with regard to pig production. It is not surprising that there is confusion amongst consumers as to the production method of the pig meat they are purchasing. These definitions, which cover terms such as 'free range', 'outdoor reared' and 'outdoor bred', have been included in a voluntary code of practice for labelling pig meat products, which also covers country of origin and breed labelling. Major retailers have signed up to the code which can be viewed at www.porkprovenance.co.uk. We believe that it is vital that consumers are provided with clear, transparent and consistent information in order to enable them to make informed purchasing decisions. Longer-term, the RSPCA would like to see the development and implementation of legislation on 'method of production' labelling of pig meat and other animals products.

RESEARCH PROJECTS

Scientific and technical Research plays a vital role in informing our understanding of animals' needs and how to meet them in practice. The RSPCA is often involved in contributing to research projects, mainly as members of scientific project steering groups.

FreeTails Project:

Notable pig-focused projects that illustrate the RSPCA's approach to using research have included 'FreeTails', initiated in 2010 by RSPCA Farm Animals Department using a grant (from the Tubney Charitable Trust) to gather information on current practices and initiatives in relation to pig welfare, specifically indoor free farrowing and the avoidance of tail docking and tail biting. A questionnaire gathered relevant information from researchers, producers, processors and retailers. A follow-up workshop was held in with key stakeholders to discuss these issues further, including the current challenges to implementation and how these might be overcome.

A larger conference followed, to enable knowledge transfer of scientific and practical information to, and engagement with, a wider audience, including government, with the findings helping to inform progression of the RSPCA pig welfare standards. Also, researchers from the Scottish Agricultural College (SAC) and Newcastle University were commissioned to investigate the marketplace for higher welfare pork products.

Subsequently, a Defra funded project at Newcastle University and the SAC looked at developing and testing alternative farrowing systems, using existing knowledge of the needs of both the sow and piglet to design a new farrowing system to optimise the health and welfare of both. They also assessed costs. A Farm Animals Department representative was on the project steering group. The findings continue to be used to inform on-going development of free farrowing systems and relevant RSPCA welfare standards.

Recommended further information

- Faucitano L and Shaefer AL (2008) Welfare of pigs from birth to slaughter. Wageningen Academic Publishers: Versailles, France.
- RSPCA website: www.rspca.org.uk/allaboutanimals/farm/pigs
- Pork Provenance website: www.porkprovenance.co.uk
- Free Farrowing Information: www.freefarrowing.org.uk

References

- ¹<https://www.statista.com/statistics/298330/clean-pigs-slaughterings-in-the-united-kingdom-uk/>
- ²Livestock numbers in England and the UK 2018-2019
- ³AHDB UK Pig Facts and Figures 2019

AssureWel (Welfare Outcome Assessment) Project:

Welfare standards are often focused on 'inputs', setting out requirements for resources such as feed, space and bedding. However, it is important to know what effect these resources are having on an animal's welfare. AssureWel, a joint project between the RSPCA, Bristol University and Soil Association, has developed a system to assess these effects or 'welfare outcomes' for all major farmed animal species on farms, for incorporation into farm assurance schemes.

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In 2016, this welfare outcome assessment became an integral part of annual on-farm audits by the RSPCA's farm assurance scheme, RSPCA Assured. Measures include tail docking, body marks and enrichment use, all of which give an indication of pig welfare. Data from these welfare outcome assessments should assist in further development of appropriate RSPCA standards.

Past projects initiated/funded by the RSPCA have also included:

- Reducing aggression between pigs
- Avoidance of nose-ringing in outdoor pigs
- Reducing tail biting in pigs

How you can help!



If you eat meat, eggs or dairy products and are concerned about welfare then look out for products carrying the RSPCA Assured logo. RSPCA Assured is the RSPCA's farm assurance and food labelling scheme that aims to ensure animals are reared, handled, transported and slaughtered/killed according to strict RSPCA welfare standards, developed by the RSPCA. The RSPCA welfare standards are informed by scientific evidence and practical experience.

If more consumers insist on higher welfare products, more supermarkets will want to stock them, which will encourage more farmers, hauliers and abattoirs to improve their practices and ultimately more farm animals will benefit.

Take part in the RSPCA's campaigns for farm animals by visiting www.rspca.org.uk/campaigns.