‘Free’ Farrowing

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Exploring different international farrowing regulations, industry- and market-led initiatives

This policy spotlight summarises the current political situation globally relating to farrowing crate regulations, as well as industry-led initiatives that show the trend towards investment in temporary crating systems. These and other alternatives are described, along with available performance and costing information. This Policy Spotlight is particularly relevant given policy developments by the European Commission and Westminster Governments relating to this issue of confinement systems.

Summary

The debate about the future of close confinement systems, such as farrowing crates for expectant and lactating sows, has been galvanised by the European Citizens' Initiative (ECI) to 'End the Cage Age'. The campaign, spearheaded by NGOs, attracted over 1.4 million signatories from more than 18 member states with support from over 170 organisations. This led to the European Commission (EC) tabling a proposal committing that "by the end of 2023, a legislative proposal to phase out, and finally prohibit all cage systems would be in place", possibly as soon as 2027. The animal welfare detriments of farrowing crates are well known and research in this area (see Baxter et al., 2018), including development of higher welfare alternatives, has been active for over 40 years (especially in the UK).

Free farrowing pen with sow actively nest-building. Copyright SRUC©

The heightened societal and political interest in this issue has sparked a great deal more R&D internationally and greater commercial uptake of different systems and practices. The UK pig industry already has 40 per cent of its breeding herd free farrowing as it operates a large outdoor commercial sector. The indoor pig sector mainly continues to use conventional farrowing crates. Uptake of alternatives has been limited largely due to farmer concerns over the potential for poorer piglet survival, ease of management and cost. However, early-adopters in the UK and abroad have demonstrated encouraging performance results and offered insight into optimal management practices.

Farrowing crate regulations internationally

Legislation already restricts farrowing crate use in Sweden (since 1987), Switzerland (since 1997 with a 10-year transition period) and Norway (since 2000), while New Zealand, Austria and Germany have announced phasing out of farrowing crates by 2025, 2033 and 2036 respectively. Other countries in Europe may set national regulations to restrict use, but EU members may wait to see what the EC propose following their initial response to the ECI. Their announcement to 'phase out' all confinement systems was caveated with a stipulation that this would follow an appropriate transition period, after a robust scientific impact assessment (being carried out by the European Food Safety Authority (EFSA) as part of their evaluation (or 'fitness check') on current animal welfare regulations. In the UK, The Pig Husbandry (Farrowing) Bill was submitted to the House of Commons in April 2021 which focussed on prohibiting the use of farrowing crates. In November 2021 the addition of a clause in the Animal Welfare (Kept Animals) Bill calling for an immediate ban was rejected but there were discussions about 'a realistic phasing out period' for farrowing crates to 'achieve welfare goals'. Outside of Europe, other than New Zealand's announcement, there are no firm commitments to abolish farrowing crates. However, in North America confinement systems have been debated with the promotion of US State initiatives seeking to increase animal welfare legislation. The most high-profile current example is Proposition 12 supported by the Humane Society of the United States and approved by voters in California in 2018. Although for pigs it only concentrates on prohibiting gestation stalls (a system banned in the UK since 1999) it highlights the trend for greater debate amongst various stakeholders about the continued use of confinement systems.

Industry-led initiatives

Industry-led action has been taken in Denmark, where they announced in 2011 that by 2022 10 per cent of their herd would be loose-lactating. In the latest in a series of Freedom in Farrowing and Lactation (FFL) workshops it was evident that similar industry-led initiatives are likely in other countries regardless of future legislation. The FFL21 workshop saw 50 scientists and industry representatives from 20 countries across Europe, Australasia, Asia, and North America all agreeing that in the future lactating sows housed indoors will be loose. However, several barriers were identified, with piglet mortality in completely free farrowing systems (i.e., no crate use at all) continuing to be a major concern, closely followed by the cost of change and the day-to-day practicalities and management of new systems.

Piglet mortality: Can we keep piglets safe without crates?

Neonatal mortality is not unusual for a litter species and typical commercial averages of live-born mortality (LBM) returned by conventional crated systems are 12-14 per cent (UK indoor average = 12.2 per cent, EU average = 13.8 per cent). Although comparisons between commercial average data from conventional crates and alternative systems are not scientifically sound, they are often used as a benchmark when trying to get an idea of how well alternatives are performing. The largest datasets to look at are from countries with no farrowing crates and the Swiss and Norwegian performances stand out, returning LBM of 11.1 per cent and 12 per cent respectively (see Weber *et al.*, 2020 and Ingris, 2020). Elsewhere, there are mixed reports of success. Sweden has seen piglet mortality levels rise in the last 10 years, returning close to 17 per cent LBM. It is thought this is partly a result of increasing litter size. Large litters have a known association with piglet mortality and a recent Swedish study comparing performance in temporary confinement and loose systems highlighted that, regardless of farrowing system, more piglets died in large litters compared to small ones (Olsson et al., 2019). Switzerland and Norway have also seen increases in litter size but have more control over choice of genetic material compared to Sweden. Danish genetics (known to be the most hyperprolific) are prevalent in Sweden and many other European countries, with the UK also seeing a rise in average

The consistent production of supernumerary piglets (i.e. piglets in excess of the number of functional teats) requires significant interventions by staff to promote survival. This is perhaps one of the major barriers to adoption of a truly free farrowing system (i.e. no crate use throughout farrowing and lactation). Producers want to retain the advantages of the crate in controlling sow movement (to reduce crushing), allowing localised heating at the birth site, and facilitating safe, targeted interventions by staff to promote piglet survival such as assisted suckling, split suckling and cross fostering. All of these factors are needed as a result of an increased prevalence of very large litter sizes and explain why systems that permit the use of a crate temporarily are becoming more popular. Austria and Germany are permitting 'crating during the critical period for piglet survival' within their legislation (4 and 5 days maximum respectively). Within Denmark's pledge to have 10 per cent of its herd farrowing in alternatives by 2022, it will also permit the temporary use of crates. Austria and Denmark have both invested heavily in R&D programmes with industry chiefly examining different temporary crating systems and their management, including period of sow confinement (Hansen, 2018; Heidinger & Kuchling, 2018).

When reviewing the scientific literature, publications relating to temporary crating have gone up by 139 per cent in the last 10 years compared to literature pre-2012 (as reviewed by Baxter et al., 2012; L. J. Pedersen et al., 2013), when free farrowing indoor systems were the most researched, followed by temporary crates, then group and outdoor.

Example of basic temporary crate option (fully slatted floor, same spatial footprint as farrowing crate) for farrowing and lactating sows in closed and open positions. Crate is typically closed until about 3-7 days after farrowing. Copyright SRUC©

Free Farrowing or Temporary Crating?

Terminology is important. The term 'free farrowing', which should indicate zero-(close)confinement, is often used as a catch-all term describing any alternative maternity system to the farrowing crate. However, in many cases, sows are crated and not able to freely turn-around during parturition. The most common alternative system available commercially and in operation in countries without farrowing crate regulations is the temporary crate (TC). The majority of TCs involve a widening of the existing farrowing crate to either allow the sow to be able to turn-around throughout farrowing and lactation or restrain the sow during farrowing before opening the crate up approximately 3 to 7 days post-farrowing. These systems range in spatial footprint from the same size as conventional farrowing crates (3.6-4.3m^2) to larger systems (7.4m^2). Appropriate synonyms to use for these TC systems are *loose lactation, free lactation* or *temporary confinement*.

Even in countries that prohibit crating (i.e. Sweden, Switzerland and Norway) there are caveats within the regulations about permitting short periods of confinement for 'aggressive sows'. However, these countries have adapted to loose systems over decades and the majority of systems can be considered zero-(close)confinement (i.e. true free farrowing with no crate to confine the sow). Zero-confinement systems involve the sow being housed individually whilst she gives birth and raises her litter. There are a variety of zero-confinement pens ranging in size and complexity but the main feature they all have in common is the absence of a crate in which to confine the sow during farrowing and lactation.

Other alternatives include group or multi-suckle systems. This refers to a practice where sows are either i) grouped together before farrowing and have individual, voluntary access areas in which to farrow or ii) farrow individually and are then relocated and mixed into a group with other sows and litters (i.e. multi-suckling). In both situations the level of initial confinement may vary with sows either having free access to individual farrowing pens, confined to individual farrowing pens or confined to farrowing crates. Finally, there are outdoor systems that operate as zero-confinement in arks or huts.

Each system then has extra levels of detail in design and management that determine its effectiveness including the quantity of space provided for the whole pen, the space for the sow and piglets as well as the quality of that space. The design features and inputs determine how well a system meets the animal's needs (e.g. flooring for substrate provision, separate microclimate for piglets) and staff needs (e.g. ability to separate staff from sows during husbandry procedures). These design details can have a large influence on performance as well as cost.

Economics of 'free' farrowing

The costs of investing in new farrowing accommodation varies, with outdoor generally being low-cost and indoor individual pens generally being more expensive. The main costs come from the increased space needed for most alternative systems, which reduces the farrowing spaces in a building of a given size. Other anticipated costs include straw bedding provision, potential for piglet mortality increases and potential for extra labour requirements. AHDB Pork have recently completed an economic evaluation of alternative farrowing and lactation systems for the UK industry using established costings models developed by InterPig. They concluded that *"...based on the evidence currently available, when taking account of likely changes to physical performance and costings, we expect the cost of production for GB indoor herds installing alternative farrowing systems to increase by 3-8p/kg deadweight depending on the chosen pen design's footprint and the mortality achieved. Even for those producers who might achieve comparable pre-weaning mortality levels, costs are likely to rise by 3-5p/kg deadweight."*

Previous modelling exercises (see Guy et al., 2012) looked at different cost-neutral or profit-making scenarios. These included modelling improvements in weaning weight, which has since been demonstrated by studies looking at performance in alternative systems (see Baxter & Edwards, 2021; Kinane et al., 2021; Pedersen et al., 2011). Other benefits that could offset the costs but are as yet not widely reported in the literature (see King et al., 2019) include rebreeding efficiency. As alternative systems are more costly these performance advantages are important to help pay back the capital costs and cost of production.

Higher welfare payment schemes

Assurance schemes in the UK that do not permit farrowing crates (or temporary crates) in their standards include the Soil Association and RSPCA Assured. Both offer premiums for pork produced under their labels. In terms of government support, Defra, as part of their future farming reforms, intend to offer a range of capital grants to co-fund farmer investment in items that support improvements to productivity, animal health and welfare, and reduce environmental impacts. 'Cages and crates' are specifically mentioned as areas targeted for action. Restricted use of farrowing crates is part of various European schemes (see Heinola et al., 2021) including Beter Leven (level 2 allowing five days of crating and level 3 allowing three days of crating) and the Danish 3 Hearts scheme (limits crate use from up to four days for 1 Heart, 2 days for 2 Hearts, and are banned from the 3 Hearts standard), with labels in Germany ('Für mehr Tierschutz') preparing to announce 'free farrowing' premiums in the wake of the new German regulations.

Knowledge gaps

Scientific reviews (e.g., Baxter et al., 2012, 2018; Goumon et al., 2022; L. J. Pedersen et al., 2013) have summarised the evidence base for different systems but there remains a lack of clarity on which work well, and which will be compliant with future rules. In addition, there is a lack of knowledge about the potential for long-term benefits of higher welfare systems for the pigs (e.g. sow longevity, piglet growth and health status) and how those translate into benefits for other stakeholders. Data are also lacking on the environmental impacts of alternative farrowing systems. Denmark is undertaking projects (e.g. SOWEMIS (Sow Welfare and low Emissions) looking at emissions of different systems but at the moment only modelling exercises would allow discussion of potential impacts. Any increase in piglet mortality would impact both costs of production and carbon emissions due to reduced efficiency. On the other hand, there could be important positive impacts on costs and efficiency if piglet growth rate advantages, seen under research conditions and reported anecdotally by early-adopters of higher welfare alternatives, were consistently returned.

Good performance of free farrowing relies on optimising the '3 Ps' of pens, people and pigs. Whilst much research has been conducted on optimal pen design of alternatives, less attention has been given to optimising pig selection and developing best practice approaches to support staff. These areas should be targeted with an effort to combine fundamental research with knowledge that can be gained from early adopters becoming more experienced with reduced confinement systems.

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