

The Power of Partnership – Driving free farrowing in Italy's speciality cured meat products



Waitrose



BACKGROUND

The majority of sows reared in indoor, commercial pig production farms farrow their piglets in crates. Farrowing crates were originally introduced to reduce the risk of sows crushing their piglets, by limiting the sow's movement, particularly as they lie down. Farrowing crates are considered to be economical, efficient and safe while maximising piglet survival rates. However, the crates raise serious animal welfare concerns, as they limit the most basic behaviours of the sow: sows are unable to turn around, walk, nest build or form a good maternal bond with their new-borns. In addition, there is an increased risk of piglets being born dead or attacked by their mothers (especially for first-time mothers), and piglet behaviour is severely restricted due to the barren environment.

There is a [range of practical alternatives to farrowing crates](#), which can be used on a commercial scale, and if designed and managed appropriately, free-farrowing systems are able to satisfy the sow's welfare needs, as well as guarantee the survival of her piglets.

As part of their continuous commitment to higher welfare standards, Waitrose has been working with their UK supplier Winterbotham Darby and their Italian partner Fumagalli to drive free farrowing in Italy's pig sector.

Fumagalli is a family-run pig production business and continental meat manufacturer, which was founded nearly fifty years ago in the Northern part of Italy. Driven by its corporate philosophy, which is based on passion, tradition and innovation, the company has undertaken many different projects over the years ranging from genetic selection research and improved food and hygiene standards to the establishment of its own network of breeding centres.

Fumagalli has always been at the forefront of the Italian pig sector when it comes to animal welfare. Their drive and ambition has secured the company a Good Sow Commendation (2015) and full Good Pig Award (the very first in Italy) from Compassion in World Farming.

A COMMERCIALY SUCCESSFULL FREE-FARROWING PEN

Farm information

As part of their continuous journey to improve pig and sow welfare, Fumagalli started its conversion to free-farrowing systems in 2015, culminating in the development of their own pen design which incorporates good examples of best practice for animal welfare. Fumagalli selected one of its longest-term farmers, who they have been working with for the past 9 years, to trial and implement these newly-designed pens.

The farm, which was previously a combination of breeding and post-weaning pigs, is currently operating only as a breeding site and accommodates around 300 sows belonging to a crossbreed of two Large White breeds. The gilts are born at Fumagalli's main breeding centre in Nerviano, and are then taken to this breeding site when they weigh around 7kg.

The air quality at the breeding farm was initially checked through a smoke control test, and good air quality is currently guaranteed by a forced ventilation system. The farm doesn't confine sows in sow stalls after insemination, and is now housing 72 free-farrowing pens. The site operates according to all-in-all-out management practices in batches of 5 weeks each.

The sows' body condition (BCS) is scored twice per cycle, at the end of farrowing and after insemination. To allow the sows to form homogenous groups and to minimise competition and stress, they are grouped according to their BCS with an average space allowance of 2.75m² per sow, during the dry period. Other key welfare indicators for sows monitored on farm include shoulder lesions at the end of farrowing, and body marks and vulva lesions during the dry period.

System design

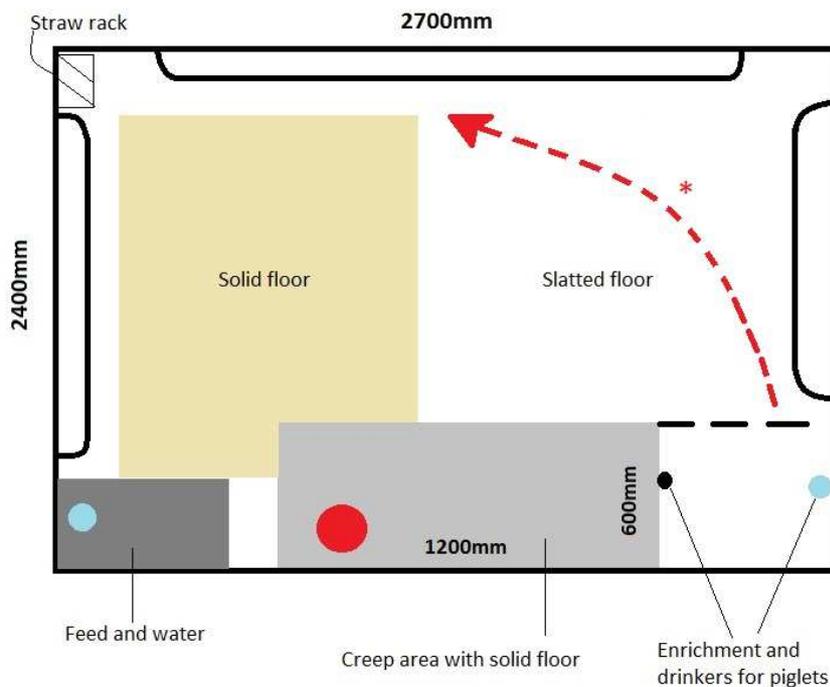


Figure 1- Dimensions and structure of Fumagalli's free farrowing pen.

Following extensive research and farm visits across Europe to see a variety of free-farrowing systems in operation, Fumagalli developed their own pen design, which was **able to meet the needs of their farmers, while significantly improving the welfare of the sows and piglets (Figure 1)**. Fumagalli continues to work with the University of Milan and the CRPA – an Italian research and consultation institute working on farmed animal welfare – to monitor sow behaviour and to identify the best nesting material (Figure 2).

Each pen has a 6.5m² footprint, so from the conversion of five farrowing crates, only four free-farrowing pens are set up, which has had an impact on the total number of sows the farm can house. Furthermore, due to the conversion of existing spaces, some pens had to be designed with a 7.5m² footprint. The number of pens per room varies according to the dimensions of the room.

Each pen has 50% solid floor (part in the creep area and part in the pen to guarantee comfort to the sow) and 50% slatted floor. The floor is made of plastic square tiles which can be moved and re-arranged to identify the part of the pen where the solid floor works better for the sow and piglets (Figures 2 and 3). For example, if the solid floor gets wet, it may get slippery, increasing the risk of the sow laying down abruptly and crushing the piglets. The risk of crushing is reduced by the presence of farrowing bars in the lower part of the pen walls, which encourages the sow to lie down more slowly.



Figure 2 - Sow performing nesting behaviour using straw

Sows are moved into the farrowing pens a few days before farrowing. Straw racks on the wall and a thin layer of straw bedding is provided to allow the sows to perform their natural nesting behaviour before farrowing. Inside each pen there is a moveable gate which can confine the sow should it be required for specific procedures, such as vaccinations or tattoo making on piglets for Parma ham production. When the pens were first introduced, sows were initially confined for just the first 3 days, however some issues arose with this configuration:

- Sows were unable to freely express their nesting behaviour, which led to increased stress and made them more agitated.
- Instead of lying with their back against the wall and giving the piglets free access to the udder, the sows lay on the opposite side with their back against the gate and their udder facing the wall. This was making feeding more difficult for the piglets due to limited access to the udder.
- When the gate was opened a few days after farrowing, this caused the sows to be more agitated which increased the risk of crushing.

For these reasons, the farmer has opted not to confine the sows before or after farrowing, which has proved to be the best configuration. The sows were able to express their nesting behaviours and were less stressed, and the piglets had easier access to the udder, thus increasing their weaning weight. **The farm is currently operating without any confinement**

of the sows – only for short periods of time if specific procedures need to be carried out.

Piglets have access to a heated creep area which is easily accessible from the corridors to ease farmer management (Figure 3); paper bedding is provided in the creep area at the time of farrowing, as paper has shown to be better in drying piglets off immediately after birth. During lactation, piglets have free access to water and ropes, which can provide further enrichment as they can be chewed and bitten by the animals.



Figure 3 - Piglets with sow in Fumagalli's free farrowing systems

Farmers don't intervene for the first 24 hours after farrowing to allow colostrum intake by the piglets; after that, if some litters have a very high number of live born piglets, fostering is practised but only between sows and gilts belonging to the same batch. Currently the average number of live born piglets is around 14.47, and the average of weaned piglets is around 12. Piglets are weaned at 28 days, at an average weight above 7kg; the farmer is currently committed to further improving the system so to increase piglets' weaning weight. **In terms of production, gilts have proven to perform better than older sows, as not being used to confinement in farrowing crates, they can learn more quickly.**

Table 1. Statistics on Fumagalli's free-farrowing farm compared to conventional farrowing crates, based on number of sows through the system

	Free farrowing pens	Conventional crates
Number of farrowings	520	1220
Number of live born piglets	13.2	13.3
Number of dead born piglets	1.8	1.65
Pre-weaning mortality rate	14.4%	12%
Number of live piglets at weaning	11.3	11.6
Piglet weight at birth (in kg)	1.35	1.3
Piglet weight at weaning (in kg)	7	7.2

Management

In the farmer's opinion, transitioning to free farrowing systems needs to go hand-in-hand with a different approach to stockmanship, as free farrowing pens require different management and closer observation of the sows. The farm is currently managed by two people, and even though neither tail docking nor teeth grinding/clipping is practised – which reduces the amount of work – the new free farrowing systems have required some extra supervision. Even though this amount of extra supervision is very difficult to quantify, the farmer indicated a generic estimates of around 10 to 15% more time than with farrowing crates.

It is also very important that management practices follow a regular routine, as this contributes to keep sows quiet and calm.

Later weaning

Part of the extra management required is due to the fact that with the new pens piglets are weaned at 28 days instead of 25 days, leaving less time for the farmers to clean and set up the new pens, as the batches are still organised on a 5 week calendar. However, extending the number of farrowing days improves piglet welfare, as it allows them to gain more weight, spend more time with the sows, and strengthen their immune system, better preparing them for the challenges ahead.

Stress-free farrowing

The most important thing to observe is that the sow needs to be quiet and not irritated. The best thing to do is to leave them alone as much as possible; only stockmen known by the sows should enter in the farrowing rooms, and they should enter as little as possible and only when required. These management recommendations are particularly important during the first 4 or 5 days after farrowing, as this is the most delicate time for the sow.

No confinement

Following close observations of the sows when first using the free-farrowing pens, the farmer noted that being confined in a crate is one of the key factors that makes the sows more agitated. This is why the pens are now always managed in an open configuration, leaving the sows free to move around before, during, and after farrowing.

Minimising heat stress

Heat is another stress causing factor for sows. If the temperature gets too hot, the sows are likely to get more agitated and continuously stand up and lie down. Furthermore they also spend more time playing with the nipple drinkers, which makes the floor more slippery – both for the sows and for the piglets. This increase in activity can lead to a greater risk of crushing, which is why temperatures in the farrowing room needs to be monitored closely.

Improving hygiene

The biggest management challenge is hygiene, as the use of bedding and nesting material increases hygiene risks, especially as far as E. coli infections are concerned. The use of these materials require more attention from the farmer and require more regular cleaning. Besides the paper bedding provided for the piglets at the time of farrowing, the sows use the straw from the racks provided to perform their natural behaviours and create a light layer of straw bedding. Straw racks are topped up every day throughout the whole lactation cycle, and the daily consumption is around 300g/pen.

TAKE HOME MESSAGE

The free-farrowing pens designed by Fumagalli have successfully combined a range of different features which provide higher welfare conditions for sows and piglets. Key aspects to the success of the system are well summarised by the following recommendations from the farmer.

TOP TIPS FROM THE FARMER:

- ✓ Keep the farrowing rooms quiet, so that the sows remain calm and don't get too agitated.
- ✓ Sows should always interact with people they are familiar with and have contact with new people as little as possible.
- ✓ Stockmen should observe the sows and try to understand their point of view to modify or minimise the things which can make them uncomfortable.
- ✓ Pens should be designed so that stockpeople are always in the sow's vision to avoid surprise and agitation.
- ✓ It is crucial that farmers running the free-farrowing systems take ownership of achieving successful outcomes. This can be achieved by making the farmers part of a joint investment to move to free farrowing or – if this is not possible – the farmers should be incentivised in other ways in order to achieve success.

QUOTE FROM THE FARMER

"We were very sceptical about the success of this new pen design, but we are now seeing that it can work very well. The sows are using the nesting material provided to express their natural behaviours, but it is important that straw racks are displayed vertically instead of horizontally to avoid the sows pulling out the straw too quickly."

TO FIND OUT MORE

Further resources on pig and sow welfare can be found on Compassion's Food Business website here: <https://www.compassioninfoodbusiness.com/resources/pigs/>

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