

GUIDELINES FOR CROSS-FOSTERING & THE USE OF NURSE SOWS

Following Part I where split suckling was discussed, this article deals with cross-fostering and the use of nurse sows. Cross-fostering and the use of nurse sows are strategies to ensure that each sow is nursing the correct number of piglets. It is vital that these practices are carried out correctly. This document lays out guidelines that may be helpful for farm staff carrying out these practices. Cross-fostering may be required without the use of nurse sows, so it is important to distinguish between the two practices. The main difference between using nurse sows and cross-fostering is:

- Cross-fostering involves adding piglets to an already existing litter
- Nurse sows involve creating a new litter of piglets

Example scenario: If your born alive is an average of 13, then cross-fostering may be sufficient without the use of nurse sows. The piglets from larger litters can be placed on sows with smaller litters to even out the number of piglets on each sow. However, if your average born alive is high (e.g. 16), the number of milk-producing teats on sows may not be sufficient to allow a suckling place for all piglets. In this situation, the use of a nurse sow is vital. Essentially, use whichever system ensures every piglet has access to a productive teat. The strategies outlined below can be implemented on-farm to help maximise the viability of young piglets and to protect the health and welfare of sows.

Inform Nutrition manufacture Piglet Booster which is designed to support vitality, immunity, gut health and growth. When piglets are being moved (cross-fostered or to a nurse sow), Piglet Booster is an ideal supplement to provide vitamins, trace elements, antioxidants and other nutrients. Piglet Booster supports the piglet's immune system, encourages colostrum intake and appetite minimises the effects of stress. Piglet Booster also contains nutrients that have been shown to support gut health and function.

Cross-fostering

Cross-fostering is stressful for piglets and sows. It disturbs piglet behaviour, can lead to insufficient milk intake due to irregular suckling and exposes piglets to new pathogens. Cross-fostering should be carried out when piglets are as young as possible, but not prior to 12 hours old, to allow intake of colostrum from their own mother. Teat order will not have been fully established if carried out within this window of 12 – 24 hours, so cross-fostered piglets can acquire a teat more rapidly. It is appreciated that doing this commercially is difficult, but for accurate cross-fostering and minimal impact on sows and piglets, this is what should be targeted.

When cross-fostered, piglets experience competition and aggression at the udder. It is vital that piglets only go through this once to minimise mortality. Teagasc data show that low birthweight piglets are more likely to survive if they are left with their own mother. More robust piglets should be cross-fostered, as they handle the challenge much better than smaller, weaker piglets. Some data also show that female piglets should be fostered as these have better survivability than male piglets. Ensure the sow you are placing piglets onto has enough milk producing teats to raise extra piglets along with her own litter. Ensure the sow is eating well and has sufficient body condition to take more piglets and feed them all. Teagasc have suggested that cross-fostering can reduce pre-weaning mortality by 40%. In order to achieve this, it must be carried out correctly.

Guidelines for Cross-fostering

- Cross-foster between 12 and 24 hours.
- Cross-foster the larger piglets.
- Cross-fostering should only be carried out once.
- Ensure the sow has enough productive teats for the number of piglets.

NURSE SOWS

Nurse sows are sows that are already in lactation and are used to rear extra piglets. Their lactation length is increased and the length of this increase will depend on what system you choose to implement. There are two strategies for using nurse sows:

1. One-step system: Use a weaned sow and give her a litter of new piglets (after they have received colostrum from their own mother). Essentially, the nurse sow in this system provides almost 2 full lactations. European Welfare legislation states that 'no piglets shall be weaned from the sow at less than 28 days of age unless the welfare or health of the dam or the piglet would otherwise be adversely affected. However, piglets may be weaned up to seven days earlier if they are moved into specialised housings which are emptied and thoroughly cleaned and disinfected before the introduction of a new group and which are separated from housings where sows are kept, in order to minimise the transmission of diseases to the piglets' (Council Directive 2008/120/EC).

2. Cascade system: Use a sow earlier in her lactation and move her piglets to a sow that is later in lactation (i.e. this involves 2 nurse sows):

- Nurse sow A has piglets that are 21+ days old. These are weaned from her.
- Nurse sow B has piglets that are 4 to 7 days old.
- Piglets from Nurse sow B are transferred onto Nurse sow A.
- Extra piglets from other litters that are newly farrowed are transferred onto Nurse sow B and they are reared by her, after they have received colostrum from their own mother.

Consider the following to help you decide which system will work best:

- Figure out how much space you have on your farm – i.e. do you have spare farrowing crates that you can use? How many nurse sows do you have sufficient space for to carry out the process efficiently? Is it financially advantageous to farrow one or two sows less per week and leave the farrowing crates empty for nurse sows?
- Calculate your average litter size and how many piglets your sows can effectively nurse (if you only need to move a few piglets from bigger litters then perhaps cross-fostering is sufficient).

- Consider how many nurse sows are required weekly and compare this with what is sustainable.
- A sow's lactation peak occurs around 21 days, so there are arguments for transferring piglets onto her when her own piglets are weaned. Equally, there are arguments that transferring piglets onto a sow who is 7 days into lactation is better, because the sow milk production stage and piglet age are closer in line. Decide which system will work best for you and make sure it can be carried out appropriately.
- A Teagasc study found that using nurse sows at either 7 or 21 days into their own lactation produced similar results, with no resultant negative implications on sow welfare or subsequent performance. No differences were observed between non-nurse sows and nurse sows in body condition score or lesion severity.

In both scenarios, ensure the nurse sow chosen will be able to successfully rear the number of piglets you give her. Use a sow who is milking well and/or has successfully reared a good litter of piglets. Ensure she is eating well and is in reasonably good body condition. Heavier piglets will cope better with fostering than smaller, weaker piglets. They are also much more likely to recover growth rate than weaker piglets. Transfer all piglets onto the sow simultaneously to allow teat order to be established and minimise aggression. As with cross-fostering, it is important that piglets are only moved once. Teagasc data show that the smaller piglets left behind on their mother had caught up to the piglets placed on the nurse sow by weaning.

Do not move piglets prior to 12 hours of life to ensure they receive adequate colostrum from their own mother. Use split suckling with large litters to ensure adequate colostrum intake. Try to get them onto the new sow prior to 24 hours of life to establish teat order, reduce aggression and minimise the likelihood of sows not taking to litters.





Nurse sow guidelines

- Ensure there is a good milking teat for each piglet transferred.
- Move the bigger piglets in the litter.
- Ideally, move piglets between 12 and 24 hours of age.
- Move piglets simultaneously onto the new sow.
- Do not use gilts.
- Do not use the same sow as a nurse sow in two consecutive lactations.
- Ensure piglets on each sow are of a similar weight.
- Tag and track piglets to ensure your procedures are successful.

Other options:

Moving the smaller piglets: There is also the option of moving the smaller piglets onto one sow so that the stock person can keep a close eye on them. This reduces competition for teats for smaller piglets as they do not have much bigger piglets to contend with. If using this strategy, ensure teats are easy to reach for small piglets. This should only be used where a small number of nurse sows are being used and piglets can be very closely monitored. Also, ensure the size of teats is appropriate as smaller piglets find it hard to suckle from big teats. Generally, this system is not advised, but might be the only option for smaller farms.

The cull sow option: If you have a group of light piglets due to be weaned that would benefit from an extra week of suckling, these can be placed on a sow that is due to be culled.

However, the downfalls of increased aggression and fighting for teats should be taken into account in these older piglets. Sows for culling are often large and have large teats, hence

these sows are not generally recommended for putting piglets onto very early in the lactation. In the cascade system, it would be possible to transfer the older piglets to the cull sows as opposed to the young piglets. Keep younger piglets on younger sows (but avoid use of gilts).



TAG & TRACK PIGLETS

To help with planning for cross-fostering / use of nurse sows:

Tag light piglets at birth. This will help to identify later if the piglet was born light or if there was an issue with its rearing (intake, ability to thrive or maternal issues). This will also help you to keep a record of how well your system is working.

Keep a note of which sows have been used as nurse sows: This will help to ensure you do not use the sow in two subsequent lactations.



MEET THE TEAM

At Inform Nutrition we believe that our in-house team of nutrition, veterinary, manufacturing and quality experts are at the core of our success. Our company ethos has always been a collaborative process between our professionals and our customers. We recognise that working together we can make the best premix and feed additive products in the world.



Martin Beirne – Founder and Technical Director

Inform Nutrition was founded in 1986, by friends Denis Twomey and Martin Beirne, who saw a growing need for high quality customised feed supplements for the Irish farming market. Since then, under the technical direction of Martin the company has grown to be one of the largest premix plants in the country. With his career spanning UK, USA and Irish agriculture and qualifications in applied biochemistry and animal nutrition, Martin's unique approach to nutrition-based health drives innovation and continuous improvement at the core of Inform Nutrition.



Des Cronin – Head of Animal Health and Nutrition

With over 30 years experience in the animal feed industry, Des Cronin provides technical and nutritional support to our Irish and export customers across pig, ruminant, equine and small animal species. Des is also highly involved in the Inform Nutrition Innovation, Research and Development programmes, heading up several NPD project teams for Inform Nutrition's pig nutritional innovation projects.

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Fiona undertook her PhD under the supervision of Dr. Peadar Lawlor (Pig Development Department, Teagasc Moorepark), Dr. Gillian Gardiner (WIT) and Prof. John O' Doherty (UCD). Fiona gained invaluable practical on-farm experience while researching the microbiological quality of liquid feed on commercial pig units, whole diet and cereal fermentations, feed form and delivery methods for grow-finisher pigs, water-to-feed ratios and benzoic acid supplementation for grow-finisher pigs.

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P.J. Rea – Consultant

Since completing a Masters Degree in Ag Science from UCD in 1986, PJ has worked in the Premix industry in Ireland. Much of his 30 years' experience has been with Inform Nutrition and as a consultant since 2016. PJ specialises in nutritional support for the pig industry with particular emphasis on the pig feed home-mixer sector.