



# RESEARCH UPDATE

## FARRMAN

### The benefits of free lactation pens for sow & piglet welfare & performance

This project was a collaboration between Teagasc & University College Cork, with support from the Irish Pig Health Society. It compared free lactation pens with conventional farrowing crates.

#### Background

There is growing interest in managing lactating sows & piglets in pens that allow more freedom of movement than the traditional crate. However, unless such pens are well designed & managed, there may be problems with piglet mortality. Free Lactation crates should ensure greater freedom of movement & expression of sow natural behaviours, while at the same time protecting piglets from crushing during the most vulnerable period, & additionally improving lifetime performance.

#### Objectives

- To evaluate the effects of free lactation pens on the behaviour & welfare of sows when compared with conventional farrowing crates.
- To assess the effects of free lactation pens on the behaviour, welfare & lifetime performance of pigs reared in such pens when compared with conventional farrowing crates.

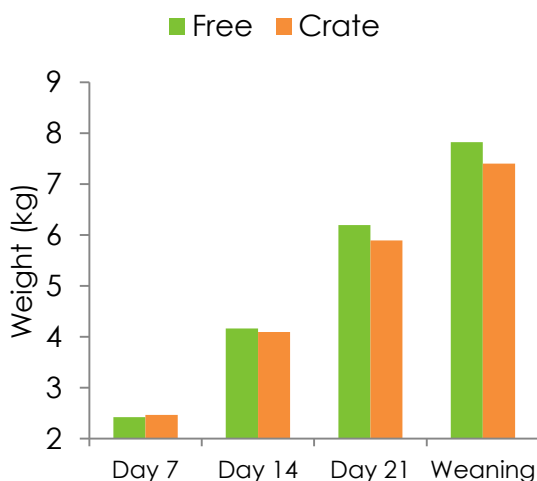
#### Study 1. Effects on sow welfare & behaviour

Sows were housed in farrowing crates (Crate; confined from entry to weaning) or free lactation pens (Free; temporarily confined from approx. 24 hrs before farrowing until day 4 post-partum). There was no effect of treatment on sow weight, back-fat, or feed intake. Sows in Free used all orientations in the pen, demonstrating that when space is available, they will choose to utilise it. Locomotory ability deteriorated to a greater extent in Crate sows, however, there was no difference in hoof condition between treatments. Lack of movement caused by confinement could have caused stiffness in Crate sows. Tear stain scoring has been used as an indicator of stress in laboratory pigs, & we saw less tear staining around the left eye at weaning in Free sows, suggesting lower levels of stress. However, salivary cortisol levels tended to be higher in Free sows. Although associated with stress, cortisol can also rise with increased activity. Sows in Free pens remained more active throughout lactation, which could explain this result. Overall, sow physical health (better locomotory scores) & welfare (lower tear stain scores & ability to perform more normal locomotory behaviour) were improved using free lactation pens. This could also have positive implications for sow longevity.



## Study 2. Effects on piglet welfare & performance

This study followed 675 piglets, the offspring of sows from study 1, from birth to slaughter. There was no difference in piglet mortality. However, more piglets in Free were crushed after the crate was opened. Numerically, more piglets in Crate than Free died from other causes (e.g. hunger). Free pigs tended to be heavier on days 14 & 21 of lactation & at weaning. Post weaning this difference became significant; pigs from the Free treatment had a higher average daily gain to finish, took fewer days to reach slaughter weight & had a heavier final weight. They also tended to perform less damaging behaviour (e.g. tail-biting). There was no overall effect of treatment on piglet faecal cortisol. However, increased weight gain & decreased performance of damaging behaviours suggest improved welfare in Free pigs when compared with Crate pigs.



### Take home message

- The use of free lactation pens did not result in additional mortality compared with farrowing crates.
- Free lactation pens improved welfare, as seen by reduced lameness in sows & reduced performance of damaging behaviour in their offspring.
- Free lactation pens had significant benefits for piglet growth rate throughout their entire lives.

### Orla Kinane

Previous MSc student on FARRMAN & current PDD Technician



Orla Kinane is the MSc student who worked on the FARRMAN project. She was supervised by Dr. Keelin O'Driscoll from Teagasc & Dr. Fidelma Butler from University College Cork.

She has since completed her MSc in Animal Behaviour & Welfare & is now working as part of the Pig Development Department team at Moorepark developing a series of skills videos & factsheets.

Orla is interested in animal welfare, & particularly in promoting the use of methods which improve the welfare of farmed pigs.