

# Pigs

May 2025

Edited by Ciarán Carroll



Welcome to the May edition of the Teagasc Pig Newsletter. Pig prices remain strong and feed prices are holding their own, so it's good

news for pig farms, and it provides a timely opportunity to address those much needed repairs and refurbishments.

We have another full newsletter this month covering a range of areas including sow replacement rates, cleaning liquid feed tanks and we have a good news story regarding the water footprint of Irish pig production!

Gerard McCutcheon focuses on Sow Replacement Rate, noting that it was at 60% in 2023. Gerard identifies the main reasons for sow culling and looks at how we can optimise gilt management in

an effort to improve sow longevity and reduce our sow replacement rate.

We take great precautions regarding purchasing feed and feed ingredients, but how well do we look after our liquid feed systems to ensure good quality feed is delivered to our pigs? I take a look at cleaning protocols for liquid feed mix tanks.

And there's a good news story from recent work carried out at Moorepark and on commercial farms here in Ireland which shows that the water use on Irish pig farms is at the lower end of global usage.

## In this issue:

- Focus on Sow Replacement Rate
- Cleaning Liquid Feed Mix Tanks
- The Water Footprint of Irish Pig Production – a good news story!

## Focus on Sow Replacement Rate

**Gerard McCutcheon, Oak Park**

The average annual sow culling rate in 2023 was 52% on recorded herds (Teagasc Profit Monitor). The average sow mortality was 8% giving a 60% replacement rate. With 2.26 litters produced per sow per year it can be estimated that the average number of litters produced per sow is 3.8. This is well below the ideal aim of getting 5 to 6 litters per sow over her lifetime. Ideally a typical target replacement rate is 40 to 50%.



There is an advantage to bringing in more gilts if herd fertility or productivity is low, but the aim should be to get as many sows to produce 5 to 6 litters as possible. There is a major advantage in having more sows farrowing up to 6 litters as the immunity of the piglets from the older sows will be greater. The risk is that with a younger herd (with a higher sow replacement rate) the overall immunity in the herd is lower, thereby increasing

the risk of a disease outbreak. There are costs associated with replacing sows – but the aim should be to ensure you keep as many sows in the herd as possible for their most productive litters (i.e. litters 3 to 5).

The reasons for culling sows should be identified and it is useful to look at the parity profile of the herd. The likely reasons for culling young sows are:

- Failure to re-breed after weaning
- Leg weakness, lameness or injury
- Failure to conceive, poor sow productivity and/or urogenital tract infections
- Poor teats and/or udder infection

One critical area is the management of gilts on the farm. You want to manage the gilts to achieve longevity for their lifetime in the breeding herd. Replacement gilts should ideally be reared in single sex pens from weaning to service. They tend to grow faster, and have less mounting behaviours than when mixed with males. This should result in less hoof damage and fewer injuries.

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“The earliest cycling females are the most fertile” – so try to have a good management system to identify gilts that are cycling in the gilt rearing area.

On the nutritional side the aim is to get good bone /skeletal development and to lay down some fat reserves in the replacement gilts. This means feeding a gilt developer diet from 70 kg to service (i.e. 150 to 160kg LW) at 34 to 38 weeks of age. This gilt developer diet should have 13.5 MJ DE/kg, 0.8% lysine, 1% calcium, 0.8% phosphorus and should be supplemented with biotin, copper, zinc and manganese to enhance bone and skeletal development.

Be careful that you do not let gilts get too old or heavy at service – and never serve gilts if they are over 38 weeks of age (cull them before they enter the breeding herd).

## **Conclusion:**

Assess the annual replacement rate on your farm. If it is higher than 50% you should have a close look at how well you are managing the gilts on your farm, and look at the parity analysis for the farm. This is worth doing in consultation with your Teagasc Advisor and/or veterinary consultant.

## Cleaning Liquid Feed Mix Tanks

### **Ciarán Carroll, Moorepark**

In 2023 the Teagasc Profit Monitor reported an average output of 2.491 tonnes of pig meat per sow per year and this pig meat was produced using 8.81 tonnes of feed. That’s a lot of feed going through the average sow herd. We all take precautions to ensure the quality of the ingredients or feed we buy but what precautions do we take to ensure the quality of this feed after we put it through a liquid feed system? Previous

work on liquid feed hygiene in Moorepark (WetFeed2) reported a potential financial return of up to €1.20 per pig, depending on the size of the farm. This article runs through a protocol for cleaning liquid feed mix tanks.

## **Frequency**

- Daily (light cleaning): rinse after each batch
- Weekly (standard cleaning): full cleaning with detergent

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- Monthly (deep cleaning): detergent + disinfection

## Materials Needed

- Personal protective equipment (PPE): gloves, goggles, boots
- High-pressure hose or pump sprayer
- Warm water (~50–60°C)
- Feed-safe alkaline detergent
- Food-grade disinfectant (e.g. peracetic acid, hydrogen peroxide)
- Brushes (long-handled, non-metallic)
- Bucket or container for cleaning solution
- Squeegee or scraper (for manual cleaning, if needed)

## Cleaning Procedure

### 1. Preparation

- Wear PPE
- Disconnect power to the mixer
- Drain remaining feed completely from the tank and associated lines

### 2. Pre-Rinse

- Use warm water to rinse out feed residues
- Use a pressure washer or hose to remove visible material from all tank surfaces, including agitator blades and corners

### 3. Apply Detergent

- Prepare a cleaning solution with a feed-safe alkaline detergent (follow

manufacturer's dilution instructions)

- Apply detergent to all surfaces using a foamer or manual brush

- Scrub hard-to-reach areas manually if needed

Contact time: Allow 10–15 minutes for the detergent to break down biofilms and residues.

### 4. Rinse Thoroughly

- Rinse all detergent off with clean, warm water
- Ensure no soap residues remain, especially in corners and valves

### 5. Disinfection (Weekly or Monthly)

- Apply a food-grade disinfectant using a low-pressure sprayer
- Allow the disinfectant to sit for the required contact time (usually 10–20 minutes)
- Final rinse with potable water only if required by the disinfectant label

### 6. Dry and Inspect

- Allow the tank to air-dry or use a clean squeegee to speed up drying
- Inspect tank for cleanliness
- Reconnect power only after ensuring tank is dry and safe

### Optional: Pipe and Line Cleaning

- Flush lines with warm water and detergent weekly
- Sanitize with approved disinfectants, ensuring they are compatible with the line material

### Recordkeeping

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- Log date, time, and person responsible for cleaning
- Note any issues (residue, damage, unusual smells)

## Tips

- Change disinfectants monthly to prevent microbial resistance

- Clean during low-use periods to minimize downtime
- Periodically test for microbial contamination (e.g. swab tests or water samples from rinse water)

## The Water Footprint of Irish Pig Production – a good news story!

**Shilpi Misri, Keelin O'Driscoll, John Upton & Amy Quinn, Moorepark**

As global attention intensifies on the environmental impacts of livestock production, freshwater use has emerged as an area to consider. Pork, one of the most widely consumed meats worldwide, was used as a focal livestock system in a Teagasc study. In an effort to better understand the sustainability of pork production, this study examined the water footprint (WFP) of intensive pig farming in Ireland, using a cradle-to-farm gate approach.

The study assessed both green water (rainwater stored in soil) and blue water (surface and groundwater used for irrigation and drinking) consumption across 10 Irish pig farms. By combining detailed farm-level data, including feed composition, production practices, and actual on-farm water meter readings, researchers

conducted a comprehensive analysis of both direct (on-farm) and indirect (off-farm) water use. Good news for Irish pig production, findings revealed that the average total WFP was 2,537 litres per kilogram of pork, placing Ireland at the lower end of global estimates. Strikingly, 99% of this footprint was attributed to the green water used in the production of purchased feed, while direct blue water use on farms contributed only a minor proportion, just 14 litres per kilogram of pork.

Despite a relatively narrow variation in water use between the most and least efficient farms (a difference of 181 L/kg), the study found potential for improving efficiency by approximately 7% through better on-farm practices. Factors such as farm size and the volume of meat produced

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showed a weak negative correlation with total WFP, suggesting that larger or more productive farms might use water more efficiently.



Drinking water was the primary component of direct water use, especially during the finisher stage of production. Feeding systems also played a role; on dry feed farms, drinking water

dominated, while in wet or mixed feed systems, feed mixing was more water intensive.

The study underscores feed production as the main intervention point for reducing pork's water footprint. Improving feed conversion efficiency, optimizing feed composition, sourcing local ingredients, and incorporating inedible byproducts could significantly reduce overall water use.

In conclusion, the study shows Ireland in a very favourable light regarding its relatively efficient water use, while targeted improvements in feed sourcing and on-farm practices could further enhance sustainability and reduce pressure on freshwater resources.



## Stay Safe with Jessy!



As part of the Teagasc focus on Farm Safety, we'd like to share some information on the Stay Safe with Jessy Art Competition & Webinar. Jessy the Sheepdog is our farm safety mascot. This campaign aims to provide a fun and creative way to raise awareness about farm safety!

The art competition is open to children in primary schools, with age-specific categories for submissions. We are asking pupils to create artwork that highlights important farm safety messages and it is an excellent opportunity to raise awareness about farm safety in a hands-on, engaging manner.

With prizes such as Smyths Toys vouchers up for grabs, and a visit from Alma in [Agrikids](https://www.agrikids.com) for the winning schools, this competition offers an exciting incentive for school children to learn while expressing their creativity.

### Competition Categories & Themes:

- Junior & Senior Infants: Farm Safety Signs
- 1st–3rd Class: Safety around Farm Animals

- 4th–6th Class: Safety around Farm Machinery & Slogan
- **Deadline:** 6<sup>th</sup> June 2025
- **Prizes:** Smyths Toys vouchers to the value of €100 for winners and €25 for runners up plus an AgriKids visit to the winning schools during the 2026 academic year
- **How to Enter:** [Upload your entries here](https://www.teagasc.ie/jessy)

### Webinar Details

As well as the Art Competition, Teagasc are running a 40 minute webinar hosted by Alison Maloney on Thursday, 19th June at 11am. The webinar will be live streamed from our Teagasc studio in Oak Park. Joining Alison in studio will be Jessy the sheepdog and Francis Bligh, Farm Safety Specialist in Teagasc and we will be going live to St Josephs National School in Rathwire, Co. Westmeath where Alma Jordan from Agrikids will be discussing farm safety with students in the school. This will be an interactive and fun event during which the winners of the art competition will be announced. Pre-registration for the webinar is essential.

<http://www.teagasc.ie/jessy>

You might share this information with your children, their teachers and local schools in your community to help increase awareness around Farm Safety?

## Welcome to our new arrivals!



**Clara Negrini** completed both her Master degree and PhD in Bologna University, in Italy. Her work mainly focused on nutritional strategies to

improve post-weaning performance in pigs. Clara has joined us as a Research Officer in Moorepark where she will work on the CIRCALGAE project, which aims to valorise the widely produced algal biomass into high value ingredients for the feed.



**Stijn Brouwers** has joined Teagasc to work on the WelPiglet project, which aims to develop AI technologies for

the early identification of 'at-risk' piglets early in life, supporting farmers in the transition to free farrowing systems. Stijn holds a BSc in Biology and an MSc in Behavioural Ecology from Utrecht University in the Netherlands, and completed his PhD on dairy cow welfare at Agroscope in Switzerland.



**Alan Foley**

Alan is working on the fit to farrow free project, looking at the use of alternative farrowing systems

on Irish farms. He aims to improve understanding of loose farrowing/lactation systems and highlight key challenges and concerns farms have adopting alternative systems. Alan received his MSc in 'Animal Behaviour and Welfare' at Queen's University Belfast and a BSc in 'Biological science' at Maynooth University.