
# Pigs

January 2024

**Edited by Amy Quinn**

Welcome to the January edition of our monthly newsletter. The Pig Development Department has started 2024 by reviewing 2023 and planning all aspects of our service for the year ahead. Gerard McCutcheon suggests a similar approach be applied on farms in his newsletter article this month. A worthwhile task that many of you may already completed, but if not here is your reminder!

On the latest "The Pig Edge" podcast episode I talk to Edgar Garcia Manzanilla, Head of the PDD who details some of the key research projects that are planned for the coming year, some planned changes to the structure of the advisory service amongst other exciting developments.

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Agriculture and Food Development Authority

# A new year – A new plan

**Gerard McCutcheon**

The month of January is named after the Roman god Janus who was supposed to have had two faces – one looking backwards and one looking forward to the future. This is an opportune time to take stock of what happened in the past, and to make plans for the future.

It is important in any business to examine past performance. Do you know what your exact production costs were last year? Do you know what your feed cost was in 2023? On a twelve month basis 2023 was a reasonable year in pig production, but it followed a most difficult year in 2022. The main aim of any business is to optimise output and minimise production costs, so that losses are minimised or avoided in poor years, and profits maximised in good years.

Now is the time to start planning and setting realistic targets for your unit for 2024. The most important step in the process is to know in advance, the costs of production. This is a good time to compile and analyse the production, feed and financial performance for your unit. Having done this you can see if there is any potential to make savings or improvements.

You can start by sending a completed Teagasc Profit Monitor (PM) Data Input Sheet to your Teagasc Advisor to complete the 2023 figures if you have not already done so. This will give you a picture of how well your unit is performing by comparison to the average figures for units using the PM recording system.

Be conscious of completing your non-feed costs as accurately as possible. This will enable a proper analysis of your unit's profitability and allow a greater focus on areas that need improvement.

**Questions you should think about:**

- What is the optimum number of pig sales per week from your farm?
- What is the optimum sale weight of pigs from your farm?
- Are you producing too many pigs which may be reducing the overall profitability of the business?
- Is your feed conversion from weaning to sale too high (average figure was 2.45 in 2022 while the top 25% was 2.28 on the Teagasc PM)?
- What was the overall feed cost per kg deadweight for 2023 for the farm?
- What was the breakdown of your non-feed costs in cent per kg deadweight for 2023?
- What was the margin over feed (sale price minus feed cost) in cent per kg deadweight for 2023?
- How can you improve these figures?

Having analysed these figures you should now make a plan to see what are you going to do in 2024 to improve the figures and optimise the overall profitability of your business. This is a discussion that is worth having with your Teagasc Advisor and any other interested/trusted parties to ensure that your goals are realistic and achievable.

# Water disinfection by chlorination

**Emer McCrum**

Clean drinking water is essential for the growth and development of pigs and as such, plays a key role in animal performance. The provision of clean drinking water is therefore essential to support all stages and ages of pigs. Younger animals in particular however are very vulnerable to developing problems in response to poor water quality which can lead to can lead to illness, suboptimal performance and even mortality. Good quality water is recognised as an indispensable element for a smooth transition post weaning particularly if problems with diarrhoea exist on a unit. This is especially important as we adjust to weaning pigs in the absence of Zinc Oxide (ZnO).

At a conference I attended last year, producers in the audience were asked whether they would be happy to prepare a newborn baby's bottle using the water currently plumbed into their first stage weaner houses. While this sounds extreme, it highlights how imperative it is to ensure good quality drinking water is provided to our most vulnerable nursery pigs. As we are all aware, there is no single solution to mitigate the impact of removing ZnO and the transition requires an all-encompassing approach focused on nutrition, health, hygiene, housing and management. Water hygiene as part of this has come into sharp focus.

While most units routinely carry out water sampling as part of quality assurance, it is recommended to carry out a more thorough assessment of water hygiene across the unit. This can be done by sampling at the closest point to where the water supply enters the unit and at the end of the line. This allows for an accurate assessment of both the supply and the water delivery infrastructure throughout the farm. We cannot rely on the quality of the source water alone because of the risk of biofilms. Biofilms can cause benign problems such as persistent blocking of water systems but more worryingly, can pose a serious risk to pig health. Research has shown biofilms can cause the persistence of infections in houses and systems, and can have a direct role in pig disease.

There are many effective water treatment options on the market suitable for installation on pig units. One of the simplest and most cost effective is chlorinating the water supply. Chlorination is the process of adding chlorine to drinking water to kill parasites, bacteria, and viruses. This ensures pigs have continued access to clean drinking water in addition to a guarantee that the plumbing infrastructure throughout the farm is clean and maintained. Dosing pump systems or in-line options are currently available to chlorinate water. Both are proven very effective and have comparably low running costs relative to the benefits in terms of improved performance and health. The average cost of chlorination is approximately 20% of the running cost of acid.

- Dosing pump systems: The process where liquid chlorine is continuously dosed into the water via an electronic precision dosing pump.

At setup a quick calculation is done to determine the correct dosage rate. It is very important to note that where water treatment systems are used and chlorine solutions must be handled, extreme care should be taken and appropriate PPE worn at all times. Hypochlorite can cause severe burns in the case of direct contact and the vapour released can cause damage to respiratory passages. For this reason PPE including chemical splash goggles, chemical resistant gloves, a respirator and protective clothing must be worn.

- In line systems: Also called passive chlorination, the process where chlorine is delivered via a device installed into a section of pipework. The water is then automatically chlorinated as it passes through the device. Dosing devices contain either a solid tablet or granular chlorine and do not require electricity or any moving parts. While this system is typically more expensive versus dosing pumps, it is safer as there is no requirement to handle hazardous chemicals and overall requires less input.

Water is often referred to as the forgotten nutrient however an absence of clean drinking water can undermine hard work and attention to detail in other areas. Irish companies are currently supplying both dosing pumps and in line systems to disinfect water. Alternatively if it is not possible or feasible to treat the entire water supply at present, starting off with the most vulnerable pigs is recommended and either system can be retrofitted for this purpose. Some in line systems include devices that can be fitted into header tanks to treat water in individual sections or rooms. In addition to water hygiene it is also recommended to regularly review the quality of your water supply across physical and mineral parameters.

## Encouraging the use of pig slurry

**Louise Clarke**

Farmers interested in importing slurry, in order to minimise fertiliser costs, are advised to complete a nutrient management plan first to assess their nutrient needs against slurry import rules. It is important that farmers are aware of the maximum amounts they can import, in order to avoid potential cross-compliance breaches as well as environmental concerns. This applies to the purchases of concentrates, fertiliser, as well as organic manure imported to the holding in each calendar year. The responsibility rests with the "occupier of a holding" for the management of fertiliser and soils on their own farm. They should be encouraged to soil test and use the information to ensure the best use of slurries and fertilisers on their farm.

The principle of soil analysis is to determine the average nutrient status of an area and to give a measure of the available nutrients in the soil. Soil nutrient levels change slowly over time. Therefore, soil test results will provide the basis for nutrient advice for a number of years until soils are resampled. Late December and early January are ideally suited to taking soil samples. At this point in time most grassland will be rested and

therefore samples taken will not be influenced by false reading from livestock manure. Soil sampling represents a very small overall cost when considered against the potential improvement on the return on investment in fertilisers.

All farmers should take soil tests and have nutrient management plans drawn up for their farms if they want to optimise crop growth (grass or tillage crops) on their farms. Farmers may not be getting the best value from their fertilisers whether they are using organic or chemical fertilisers if they are not aware of their soils requirements. If a farmer is using pig slurry, doing a nutrient management plan early in the year may help ensure they do not use unnecessary chemical phosphorus which will reduce the amount of pig slurry they may obtain. Farmers need to plan ahead to get the best out of using organic fertilisers such as pig slurry to save them money.

Last year saw a number of new rules and changes to existing rules which affect livestock and tillage farmers in relation to nutrient management when importing slurry, spreading slurry and buying compound fertiliser. Importing farmers should make sure they are aware of all these changes early in the start of the New Year to avoid any mistakes later on in the year.

Some of these new changes include:

1. New soil testing requirements:
    - From 1st January 2023, all farms with a grassland stocking rate above 130 kg N/ha and all arable land, must complete soil tests for Phosphorus (P). Without a completed soil test, a soil P index 4 is assumed. Parcels with Soil P index 4 cannot accept any organic manure applications (except if potatoes, beet or maize are being grown).
    - If the stocking rate is less than 130 kg N/ha and no soil test is done you must use a soil P index of 3.
    - Soils with more than 20% organic matter (often referred to as “peaty soils”) shall not exceed the P allowance for Index 3 soils.
    - Only parcels that are shown to be Index 1-3 are eligible to import organic manure.
    - Soil tests must be completed at least once every 4 years with max area per soil test of 4 hectares (9.9 acres).
    - This change is very important for any farmer wishing to use pig manure.

2. Low Emission Slurry Spreading:
    - Low emission slurry spreading (LESS) must be used for the application of slurry produced solely by pigs on any holding.
    - It is the importing farmer’s responsibility to accept the importation of organic manure onto their holding on their agfood.ie portal once it has been uploaded by the exporting farmer.

3. Limit of 170 kg Organic N per hectare:
    - The limit of 170 kg of organic N per hectare still applies to all farms that import organic fertilisers such as pig manure. The amount considered to be applied to commonage shall not exceed 50 kg of N per hectare. Now the

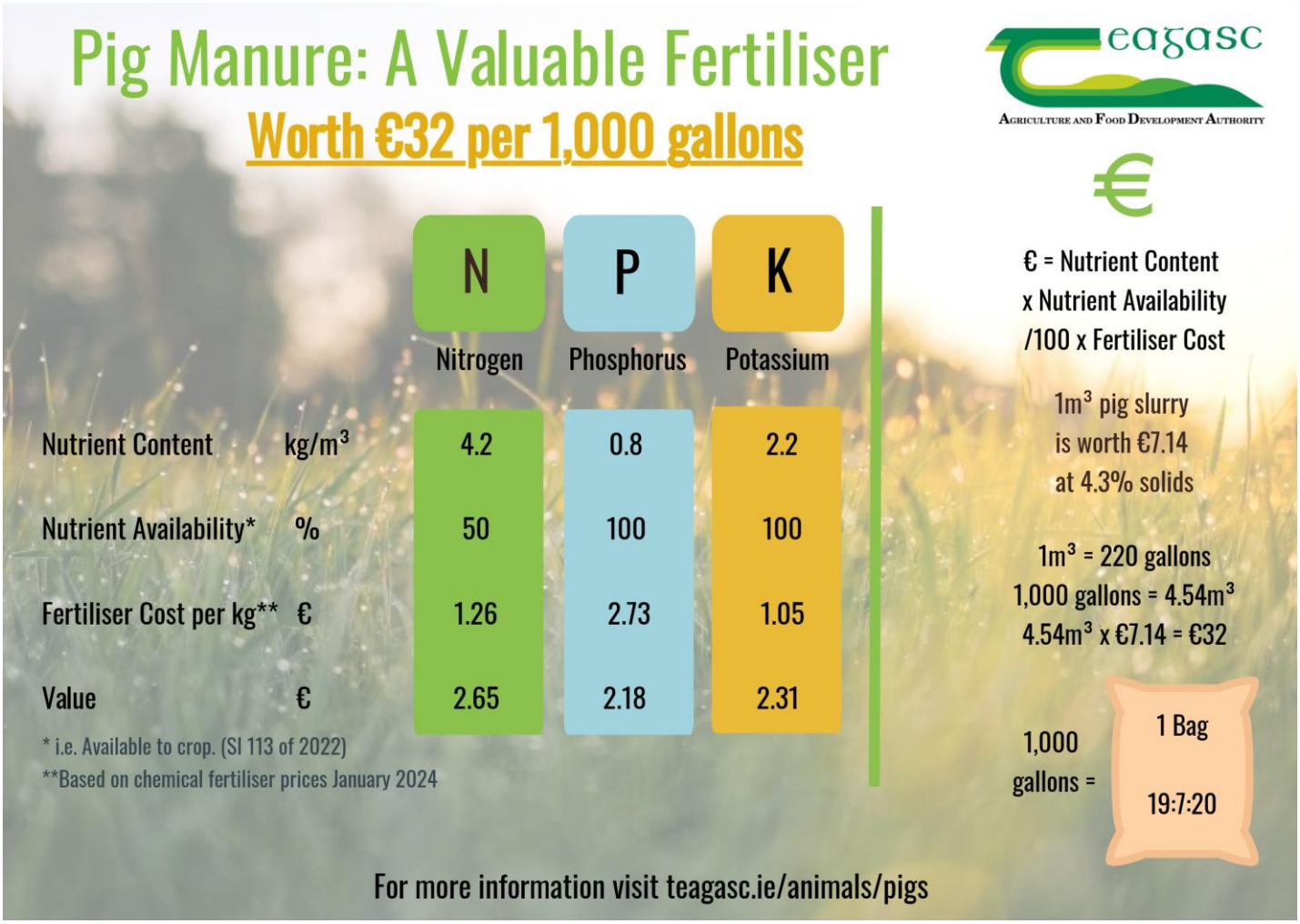
calculation is based on not exceeding 170 kg of organic N per hectare in the current year.

## Value of pig slurry

The fertiliser value of pig manure at 4.3% solids is currently valued at €7.14/m3, this translates into €32 per 1000 gallons. As the solids content increases there will be a corresponding increase in the nutrient content and in the fertiliser value.

## Health and Safety

As the slurry spreading season starts again, there is a reminder to all farmers to please take the time to assess farm safety before the start of the busy period and make appropriate changes to help keep yourself and others safe. Check machinery and ensure all PTO shafts have guards in place. In particular, check guards on PTO shafts of slurry mixing and spreading equipment. Do not leave opened tanks unattended. Farms are a busy place where several tasks are being completed each day and health and safety should not be an afterthought to any of these tasks.



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## PDD workshops & webinars

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The Certified workshop on "Animal Welfare on commercial pig farms" gives a thorough overview of pig welfare regulations, considerations and best practice and has been developed in collaboration with the Pig Development Department advisory, research and education team. This workshop fulfils the welfare training requirement of the Bord Bia Pig Quality Assurance Scheme, whereby each farm is required to have at least one member of staff pig welfare certified.

The certified workshop in "Pig farm health & Safety" will be tailored specifically towards pig farms whilst also fulling the farm safety training course requirement for TAMS 3. It will address the main workplace risks and suggested mitigation actions to keep pig farm personnel safe throughout the year.

## Goodbye Jen

We would like to wish Farewell and good luck to Dr Jen-Yun Chou who is leaving the PDD this month having spent two years employed by Teagasc as a Research Leaders, Marie Curie postdoctoral fellow. Jen has been investigating the complexity of the social life for pigs, specifically how and why they interact with each other, to try and understand better how we can reduce aggression. The idea for her research arose during her PhD at Teagasc, tackling the issue of tail biting and using enrichment strategies to rear undocked pigs. She noticed that re-introducing pigs to their home pen after they were removed because of tail biting outbreaks was often unsuccessful. To try and figure out how to improve success rate, her recent work aimed to see if we could identify which pigs are more likely to be aggressive, and if use of pheromones could promote positive behaviours. Jen spent the first 18 months of her contract at the University of Veterinary Medicine, in Vienna, and her next step will be heading to the Prairie Swine Centre in Saskatoon, Saskatchewan, Canada as a research scientist to lead the ethology and welfare group there. She will continue her work on all subjects related to pig behaviour and welfare and start by conducting research projects on optimising gestation housing for group-housed sows, and introducing a commercial loose lactation system to Canadian pig farmers. Good luck Jen, we look forward to no doubt collaborating with you in the future.