Welcome to April’s Newsletter

Amy Quinn

The effects of the COVID-19 global pandemic continue to be felt by all throughout the industry. Since our last newsletter restrictions were tightened further; however, farmers, farm labourers, farm relief service workers and others involved directly or indirectly in crop and animal production and related activities (including veterinary services) are considered to be essential workers and are permitted to travel for work.

I’m sure by now all farms have staffing contingency plans in place and all necessary staff have been provided with letters confirming that they are an essential employee required to travel for work. The Pig Development Department (PDD) has produced a poster on COVID-19 for pig producers that was emailed out earlier in the month. This poster is also available online at: https://www.teagasc.ie/animals/pigs/advice/covid-19/.

This month the Pig Development Department is delighted to announce that we will be launching our new Podcast, The Pig Edge, on the 22nd of April. Further details can be found in the news section of this newsletter. We have been planning this podcast for a number of months but in light of our Pig Research Open day being cancelled we have decided to release the first two episodes on the two dates that the open day should have taken place, April 22nd and 24th. The first number of episodes will provide listeners with an update on some interesting PDD research projects.

We would also like to take this opportunity to remind you that the Teagasc PDD is very much still operational and the Teagasc advisors are available to discuss any queries or concerns by phone or email.

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- Energy usage- where are the savings?
- The national antibiotic usage database for pigs
- Feeding fresh whole milk to pigs
Energy usage- where are the savings?

Louise Clarke

The cost associated with energy usage may only represent a small percentage of the cost of pig production, but reducing that cost can directly increase profits and competitiveness. Last month Teagasc and the Sustainable Energy Authority of Ireland (SEAI) held two well attended seminars informing pig farmers of the opportunities in the area of renewable energy aided by Government funding through the Support Scheme for Renewable Heat (SSRH).

What is the SSRH?
The SSRH is a government scheme that provides financial support to convert to renewable heat for a 15-year period. The scheme will be administered by the SEAI. The technologies covered in the pig sector include heat pumps, solid biomass boilers and include combined heat and power plants. The SSRH is now open for applications. Applicants may be farmers, small businesses, hospitals, schools and district heating schemes (one boiler serving multiple properties).

What are the benefits for pig farmers?
Farmers can potentially benefit from the SSRH, depending on their circumstances. There are plenty of renewable options available to farmers nowadays, many of which are grant-aided. The technologies supported such as biomass boilers and solar panels are very relevant to the pig and poultry sectors in Ireland. Phase two of the scheme was officially launched on June 4th 2019 by Minister Richard Bruton. After a long gestation period this important incentive is now live.

Before looking at the SSRH grants it is important that pig farmers understand where the majority of their energy demands are coming from and what they should be doing to try reducing these demands or how they can make their system more efficient.

Where is the energy used?
Pig farms, like all businesses can spend a considerable amount of money on energy. For most pig units the biggest energy requirements are for:

I. Heating the farrowing and first stage weaner houses,
II. Ventilation systems and fans,
III. Lighting pig buildings,
IV. Feed delivery and mixing,
V. Power-washing,
VI. Manure pumps to mix and agitate slurry tanks.

Top tips in trying to reduce your overall energy costs?
Monitor the energy usage on your farm. This will provide the basis of good energy management. Do regular meter readings; don’t just rely on utility bills. Carry out an energy audit of your unit. Energy audits will not only tell you where the energy is being used but it can also highlight areas where potential savings can be made.

Benchmark your performance with industry standards. Do you know how much energy usage it takes to produce a pig of your farm? Research shows that there is a huge variation in energy usage on pig farms with a range of 17 to
37kWh per pig produced. This suggests that greater emphasis needs to be put on energy efficiency.

Maintenance, repairs and cleaning is an essential part of reducing wasted energy. Check the accuracy of controls on your unit, check that sensors are correctly positioned, keeping a close eye on temperature sensors. Use the information obtained from control systems to see how the system is performing. It is critical to check if the ventilation system is working in tandem with the heating system throughout the whole unit. The ventilation system may control house temperature at a massive cost to the heat supply system if the two systems are not working in tandem with each other.

Insulation of pig buildings: the provision of heat in buildings is very wasteful if there is a poor level of insulation in the building. The walls and ceilings should be insulated to achieve suitable U values. Check the insulation to see if it has been damaged by pests. The temperature fluctuation in the pig house should also be checked by using maximum-minimum thermometers to monitor if house temperatures vary considerably between day and night-time. It’s important to note TAMS II funding is available for upgrading of insulation in some pig buildings.

Lighting: we all know the importance of lighting throughout the different stages of production. LED (light emitting diodes) is the latest technology in lighting. The light fittings are more expensive to install but last much longer and are more efficient from an energy use perspective. They do not heat and use less energy as a result. They are well worth considering in new buildings because of their lower energy requirements.

Farrowing house tips: accurate heat control is a requirement in the farrowing house for the survival of newborn piglets.

- The ideal is to have a farrowing room temperature of 24°C once the first piglet is born in the room. This should be reduced to 20-22°C when the youngest piglet in the room is over 48 hours old. If houses are old/draughty they may need to run slightly higher.
- Pig producers may use shredded paper to supplement the heat source at farrowing rather than an infra-red bulb. Caution is needed around infra-red bulbs as they can be inefficient energy users and can also be a potential fire risk.
- If the average gestation period is 115 days, it is not necessary to heat up the creep area until day 113 of gestation.
- Poor temperature control can lead to unnecessary overheating of pads resulting in wasted heat production and wasted ventilation energy. This applies particularly in the first two weeks after farrowing.

Weaner and finisher accommodation tips: Ventilation and feeding systems are the main users of energy in the weaner and finisher accommodation of a pig farm.

- First stage weaners also require a source of heat. The aim is to have newly weaned pigs kept at 28°C to 29°C initially, with a reduction of approximately 2°C in room temperature each week thereafter. However, with heavy weaning weights there may be some scope to reduce these temperatures.
• Make sure controls are properly calibrated and set to the correct temperature
• Re-insulate buildings if necessary and seal buildings to stop draughts
• If replacing fans use ones with high energy efficiency motors.
• With wet feeding and slurry pumping systems, choose pumps that give the best flow to energy characteristics.

Conclusion
Energy is a resource that must be used efficiently and effectively. The high variation from one farm to another suggests that a greater emphasis needs to be put on energy efficiency. A lot of the savings are greatly influenced by management which is the most important aspect of energy efficiency. With margins in the pig sector a lot healthier than what they were this time last year, maybe it is time to invest in energy efficiency to save money in the future.

The national antibiotic usage database for pigs

Julie Bolton, Veterinary Inspector, AMR division, DAFM

The term antimicrobial resistance should be a familiar term amongst farmers now given the growing concerns in relation to having effective antibiotics in human healthcare. Indeed, amidst this global COVID-19 viral pandemic, the importance of having antibiotics to treat any underlying bacterial disease has never been more important. Antimicrobial resistance, specifically antibiotic resistance, where the antibiotics no longer work to treat disease, is a growing public health threat.

Without effective antimicrobial cover, routine surgical procedures and cancer chemotherapy become high risk and infections that were once deemed relatively minor have the potential to kill. Reducing the use of antibiotics in both the human and animal health sectors is seen as a key intervention in tackling AMR.

A National Antimicrobial Usage Database for pigs was introduced by the Department of Agriculture Food and the Marine (DAFM) on the 1st of November 2019. This database is designed to collect farm level data on the amount of antimicrobials (antibiotics) used on commercial Irish pig farms on a quarterly basis. Data is not required to be submitted regarding the volume of animal remedies used which are not antibiotics such as vaccines, zinc oxide, wormers, and hormones such as oxytocin or anti-inflammatory.

To establish a baseline for the level of antibiotic use in Irish pigs and document any future reductions in use DAFM are starting by collecting a years’ worth of data for 2019 (2019 is broken down into four quarters of three month blocks) and data will be required to be submitted on a quarterly basis thereafter. Furthermore, it will be a requirement under the Bord Bia Pig Quality Assurance Scheme for pig producers who slaughter more than 200 pigs per year to submit their antibiotic usage data to DAFM.

Why measure antibiotic use?
• To protect consumer confidence in the quality and safety of Irish pork and bacon.
To ensure competitiveness of Irish pig meat exports in global markets
- To satisfy requirements of the new Bord Bia Quality Assurance Standard being introduced in 2020.
- To satisfy EU legislation which will apply from January 2022
- To decrease antibiotic usage in the pig sector
- To increase profitability; antibiotics are a cost to farmers
- To address AMR - “we can’t improve what we can’t measure”
- To measure use of certain antibiotics classed as critically important in human health (CIAs)
- Identify and share best practice with industry stakeholders in order to improve animal health

In the event that you are a pig herd owner who sends more than 200 pigs a year to slaughter and you have yet to submit an antibiotic usage return for your herd the first thing you need to do is to check whether or not you are registered with DAFM online services through www.agfood.ie, in order to facilitate the submission of antibiotic usage returns for your pig herd.

If you are not already registered, you can register on www.agfood.ie by clicking the option to register. To register for this system, herd owners, in addition to personal data, will require their PPSN, email address, phone number, and date of birth. A PIN number will then be issued by post.

For queries regarding registration, or to obtain a new password (where you have already signed up), you can contact us on 076-1064424 or by email at agfood@agriculture.gov.ie. In the event that you are already registered with DAFM online services, for example you may have submitted a TAMS application in the past, or registered calves through AIM. If you also keep cattle, the same username and personal access code (PAC number) will get you access to the national antimicrobial usage database for pigs.

What will my antibiotic use data be used for and who will have access to it?

Any data submitted to DAFM is fully protected as personal data and will not be released to any third party. Only anonymised, aggregated data will be used to generate a figure for the level of antibiotics used in Irish pigs and be shared with stakeholders in the pig industry and other third parties. The only people with direct access to your personal data will be DAFM officials and yourself.

Results so far..

At the time of going to press, antibiotic use data has been received from 50 herds of interest out of approximately 350 who are required to submit data. The data received so far is very encouraging in that it demonstrates a low level of antibiotic use in many herds with a national average of **58.89mg/kg** for Q4 2019.

This figure is likely to change as we receive more data, but it does highlight the value in having a figure for the level of antibiotic use in Irish pigs. Indeed the need for data has never been greater in view of the claims being made by other European countries such as our closest neighbors in the UK who report a usage level of 110mg/kg in 2018 which represents a drop of 60% on the level of use reported in 2015.
Reports available for farmers who submit data
DAFM are designing dashboards where farmers will soon be able to view reports of their level of antibiotics used per quarter similar to the report below.

If you have any issues or queries in relation to your data submission please contact amupig@agriculture.gov.ie or 01 5058620/087 6949396
In recent weeks some pig producers have been approached by members of the dairy industry regarding the possibility of feeding fresh whole milk to pigs. This has occurred due to the rapid expansion of the Irish dairy herd since 2015 (approx. 300,000 extra cows) straining current processing capacity and the current logistical difficulties associated with COVID-19.

So can whole milk be fed to pigs and if so at what inclusion levels?
The answer is yes it can be fed to all ages of pigs as long as you adhere to three principal factors; maintaining a balanced diet, limiting the dietary salt content and gradual introduction to the diet.

1. Maintaining a balanced diet:- the fresh whole milk inclusion rate will vary depending on the age group of pigs but could vary from 23% (lactation sows) to 19% (weaners) to 3% (finishers). The inclusion rate for finishers could be pushed to 6% but this would require a higher inclusion of fibre (e.g. 10% soya hulls) to ensure that the diet remained balanced.

2. Limiting dietary salt content:- as milk is relatively high in salt the diet would have to use a pre-mix balancer i.e. lower pre-mix salt levels to ensure that the dietary salt content in the diet wasn’t too high.

3. Gradual introduction to the diet:- the introduction of whole milk in the diet would have to be gradual over a course of 10-14 days. This will allow time for the levels of the enzyme lactase to increase in the pig gut. Lactase is required to digest the milk sugar lactose. Introducing milk too rapidly would lead to digestive problems and increase the risk of mortality due to milk bloat.

Is there a financial gain from using fresh milk in pig diets? This would depend on whether the milk is used as a substitute for other nutrients (this is preferable) or whether the milk is being used to provide additional nutrients to the diet, i.e. in addition to the current energy and protein dietary specification. For obvious reasons it will be easier for those with liquid feeding systems installed to make use of whole milk by substituting the milk for other ingredients in the diet. An estimation of the potential saving can be assessed with your advisor.

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Table 1. Fresh milk inclusion levels (DM basis)
This month the Pig Development Department (PDD) is delighted to announce that we will be launching our new podcast series, “The Pig Edge”, on the 22nd of April. Our second episode will air on the 24th of April. These dates were originally the planned dates for the Pig Research Open Day, so in these initial episodes we will talk to two of our researchers about some of the interesting results from their trial work. A new episode will air every two weeks and will be available on Apple Podcasts, Spotify and the Teagasc website. Remember to subscribe or follow so you never miss a show.

Digital media
In addition to the podcast series, the PDD is creating a number of digital media content that is, and will continue to be available on our website and social media over the coming weeks. Materials include: infographics, posters, videos and research updates as well as our new podcast series.

The PDD welcome Orla Kinane
The PDD are delighted to welcome Orla Kinane to the team. Orla who recently completed a Master’s thesis with the PDD and University College Cork (UCC) on “Investigating the Effects of Free Lactation Crates on Sow and Piglet Welfare” with Keelin O’Driscoll is a great addition to the pig industry. Orla will be working with us over the next few months, developing a series of skills videos and factsheets.

ASAS 2020
Julia Calderón Díaz, a Postdoctoral Researcher with the PDD, presented the results from the SWAB project last month at the annual meeting of the American Society of Animal Science Midwest section. The meeting took place in Omaha, Nebraska from 2nd to 4th of March. Julia had 2 oral presentations where she spoke about the biosecurity practices associated with antimicrobial usage and biosecurity practices associated with prevalence of Mycoplasma hyopneumoniae, porcine reproductive and respiratory syndrome virus, and swine influenza virus in Irish pig farms. If you would like a copy of the abstracts and/or presentations, please email Julia at julia.calderondiaz@teagasc.ie.

Event postponement & cancellation
As a result of the COVID-19 pandemic the PDD have had to postpone or cancel all public events, discussion groups and courses until further notice. However if you have any queries or concerns the Teagasc advisors are available to take your call or email.