PIGS

October 2018

Editor: Ciarán Carroll

Welcome to October's Newsletter

Ciarán Carroll

Welcome to the October edition of our monthly newsletter. Pig prices and margins remain the focus of attention in the sector, while we also keep an eye on what's happening in Europe with regards to African Swine Fever. The number of cases in wild boar in Belgium has increased. Authorities there have a plan in place to control the spread. We in Ireland need to remain vigilant to make sure that we keep this disease out of the country. Put a Biosecurity Plan in place and educate your staff and visitors about it.

October has been another very busy month for the Pig Development Department (PDD). The new Pig Farm Managers Course is well under way, with very positive feedback from the 20 students enrolled. On the education front, it's that time of the year when school students doing their leaving certificate are thinking about what courses they might pursue when they finish school, i.e. commencing September 2019. In Teagasc we now offer full time Level 5 Pig production course starting each September but to date have not had enough applicants to start the course. It can be offered in any Teagasc college if the demand is there. We have had a few queries recently from students expressing an interest in this course. If you know of anyone thinking about going to Agriculture College from September 2019 it would be worth mentioning it to them. Ask them to contact me or their nearest Ag College for further information.

Our annual Pig Farmers' Conference took place last week at Cavan and Horse & Jockey. Both days were well attended and a full report will be published in the next newsletter.

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Teagasc
Agriculture and Food Development Authority

Antimicrobial use on Irish pig farms: an update on AMURAP

Lorcan O´Neill, Gerard McCutcheon & Edgar Garcia Manzanilla

On the 25th October 2018, the European Parliament voted to accept proposed legislation from the European Commission which will bring new regulations governing the use of antimicrobials and medicated feed. These regulations will impact pig production in all EU countries. The first step in preparing for these changes is to measure antimicrobial consumption.

Until recently, only a few countries such as Denmark and the Netherlands measured antimicrobial use (AMU) in pigs in detail. Now, however, several other countries have implemented AMU data collection systems. The most notable among these are in Germany, Belgium and the UK. Therefore, it is increasingly important that the Irish pig industry has an understanding of its own levels of antimicrobial use. AMURAP, a collaborative project involving Teagasc and UCD, is investigating antimicrobial use and resistance in pigs and poultry in Ireland. Teagasc have collected antimicrobial use data from 67 farms representing over 30% of the national pig herd. Last year we reported preliminary results for antimicrobial use in medicated feed during 2016. This month we can report in more detail on all routes of administration. We will also discuss the forthcoming EU legislation.

How we measure antimicrobial use

In order to compare antimicrobial use between farms, regions or over time it is necessary to define a treatment **indicator**. This is simply the amount of antimicrobials used (mg of active substance or number of doses) divided by the weight (or number) of animals in the population. The Teagasc antibiotic calculator uses the **milligram per kilogram liveweight sold (mg/kg lwt)** as you can easily relate this to your own farm. It is important to note that other indicators are used by different countries and the results can vary depending on which one is used. The European Union report on the sales of veterinary antimicrobials uses the mg per population correction unit (mg/PCU). The population correction unit allows comparison between different species. The mg/PCU is also used by the electronic Medicines Book system in the UK which will be familiar to farmers participating in the Red Tractor scheme. Whichever unit is used, the most important thing to know is how your farm compares to others.

Summary of antimicrobial use on Irish pig farms

The estimated total weight by active ingredient of antibiotic consumed on the sample of 67 farms during 2016 was approximately **14.2 tonnes**. Ninety percent (90%) of this was delivered in medicated feed. Seven percent (7%) was delivered using other oral remedies, mainly in water, while only 3% were injectables. The most commonly used antimicrobials were

chlortetracycline (56.3%), sulfadiazine and trimethoprim (26.3%), amoxicillin (6.4%) and tylosin (5.9%). The use per farm is summarised in table 1.

Table 1. Antimicrobial consumption (mg/kg lwt) on the sample of 67 farms in each route of administration.

Route of administration	***Mean (mg/kg lwt)***	***Median (mg/kg lwt)***	***Range (mg/kg lwt)***
Overall	104.5	63.3	0.7 - 685.3
Medicated feed	93.7	54.3	0 - 685.3
Water	6.0	0.3	0 - 66.4
Other oral	1.7	0.03	0 - 19.9
Injectable	3.1	2.8	0.2 - 12.9

In table 1 you can clearly see how important the role of medicated feed is in the overall context of antimicrobial use. You may also notice the wide range, from nearly zero up to 685mg/kg lwt. The graph in figure 1 on the following page shows how the farms compare. Understanding this variation among farms is one of the objectives of the AMURAP project and analysis is underway.

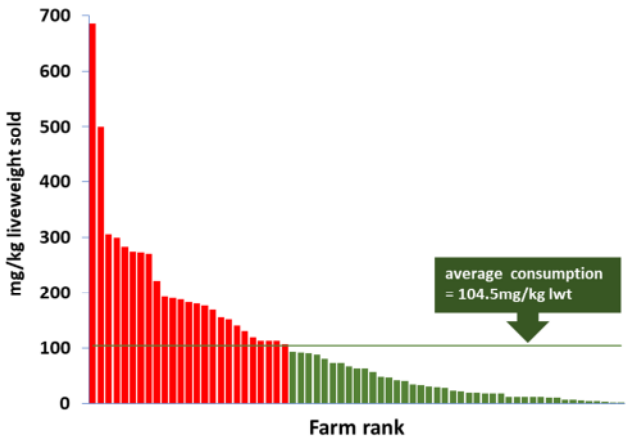

Figure 1. Antimicrobial consumption on 67 farms in 2016. The red bars represent farms with above average use; green represents those below average.

Use in medicated feed

The amounts of antimicrobials used in medicated feed warrants a closer look. Most farms medicate the creep and or link diets. In terms of consumption this represents around 16% of total antimicrobial use. Nearly 57% of farms also medicated the weaner diet. This has the biggest impact on consumption representing 51% of total use. Therefore, 67% of all the antimicrobials used in pig production are administered in medicated feed to first and second stage weaner pigs. A further 24% of farms used medicated feed in the finisher pigs representing 21% of total use. Just under 9% of farms did not use any medicated diets.

To see how the pattern of use in medicated feed impacts the figure for your farm take a look at figure 2. Each oval contains the farms medicating each particular category of diet and the overlaps represent the use of more than one medicated diet. The numbers represent the average consumption in mg/kg lwt. For example, at the top of the red oval you can see that farms that only medicate the creep diet

use 15.4mg/kg on average. Further down you can see that those medicating the creep, link and weaner diets use 136.7mg/kg on average and so on. It should be obvious that the farms which medicate the weaner or finisher diet have much higher consumption figures.

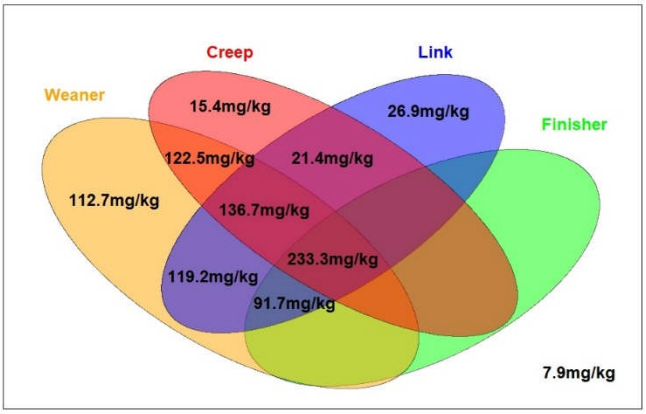

Figure 2. Venn diagram showing how pattern of use impacts the final figure for antimicrobial consumption. Each set contains the farms medicating the given diet category: creep, link, weaner and finisher. The value outside the 4 sets is for farms that did not use medicated diets.

How do I measure antimicrobial use on my farm?

The diagram in figure 2 may give you an indicator as to the level of antimicrobial use on your farm. However, it is only a guide. To get a more accurate picture for your farm you should do a more detailed calculation. Your advisor would be delighted to help you with this. The data you need is relatively simple to collect. For in feed use you need to know which antimicrobials are used in each medicated diet, the inclusion rate for each one and the amounts of each diet used. Even an estimate will give you a good idea of where you stand. For other antimicrobials such as injectables and oral powders etc. you can check how many bottles or packs of each product you used; your vet may be able to provide you with a summary.

How does Ireland compare?

ESVAC is the European Union project to measure antimicrobial use in veterinary medicine and agriculture. It publishes an annual report on sales of antimicrobials in all EU and EEA countries. Overall, Ireland ranks as one of the lowest consumers of veterinary antimicrobials. However, this is across all species. In the near future, ESVAC will produce species specific reports.

As mentioned earlier some countries are already measuring antimicrobial use by species. In figure 3 we can see how Ireland compares to the other countries for which data from pig production is available. It should be interpreted with caution as this data is 2 years old. Many countries have no data available yet and it is very likely that some of these have much higher AMU. However, next year some will publish their first data (e.g. Belgium). Furthermore, many countries, including the UK and Germany are reporting decreases in consumption. It is therefore important that the Irish pig sector can produce similar data.

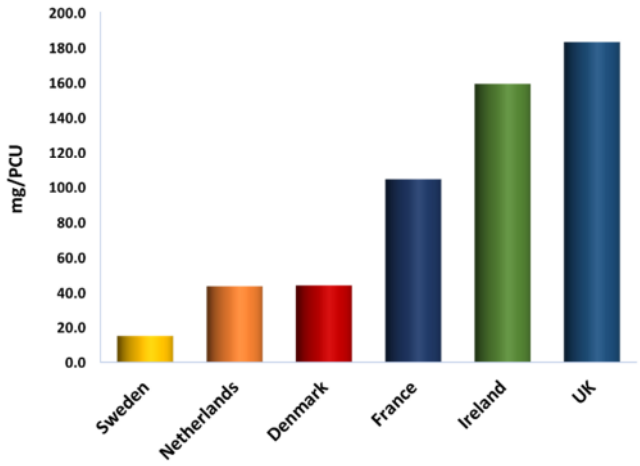

Figure 3. *Comparison of antimicrobial consumption in pig production for 5 European countries and the Irish sample farms for 2016.*

Current and future developments

As mentioned earlier, the European Parliament voted to accept the European Commission's proposals to change the regulations governing the use of antimicrobials and medicated feed. The most significant of these changes will affect the use of group treatments. It is proposed to limit prophylactic treatment to individual animals only in exceptional circumstances. Group treatment will only be allowed in conjunction with a veterinary diagnosis and where it has been demonstrated that there is no alternative treatment. It is also proposed that a prescription for medicated feed will only be valid for 5 days (as opposed to 30 days currently) and that the duration of treatment shall be limited to 2 weeks. The Commission will have the power to ban or restrict the use of certain antimicrobials. The regulations also require EU member states to collect antimicrobial use data for each of the major livestock species. Once accepted by the EU Council of Ministers these regulations are expected to come into effect in 2022.

Last October, the Irish government launched its national action plan against antimicrobial resistance (iNAP). This is a wide-ranging plan involving all sectors concerned in both human and health. While some of the measures outlined will take time to implement many will have an impact in the near future. The Department of Agriculture Food and Marine (DAFM) has been tasked with developing a database to monitor antimicrobial use, starting with the pig and poultry sectors, and could be operational as early as next year. DAFM is also planning to publish 'prudent use' guidelines to guide farmers in the correct use of antimicrobials. They are also in the process of developing a new policy governing the use of the **'critically important antimicrobials (CIA).'** These are the antibiotics that are most important in terms of human health. The highest priority CIAs currently include drugs such as enrofloxacin (Baytril®), marbofloxacin (Marbocyl®, Forcyl®), ceftiofur (Naxcel®) and colistin (Coliscour®). Their use is likely to be restricted to cases where it is proven that no alternative exists. Overall use of these antimicrobials is low (less than 1% of total consumption) but they are used on most farms. Furthermore, macrolides, the class of antimicrobials that includes tylosin (Tylan®) and tilmicosin (Pulmotil®) may be included in this list.

While this will undoubtedly present a challenge to the pig industry, Teagasc, through its research activities, and its advisory and education services, is committed to helping Irish pig farmers equip themselves for these changes.

Water Abstraction Registration

Ciarán Carroll

Development of a register of water abstractions is a requirement of the Water Framework Directive (2000/60/EC). The water abstraction register has been launched in accordance with the European Union (Water Policy) (Abstractions Registration) Regulations 2018 (S.I. No. 261 of 2018).

Responsible management of water resources involves ensuring that river flows, lake and groundwater levels can sustain aquatic environments, while also allowing use of water for drinking water supply and other agricultural, commercial, industrial and recreational purposes. To assess if our water resources are being managed sustainably, it is important to know what volume of water is being abstracted and from which rivers, lakes and groundwater. This water abstraction register aims to capture this information and the data will be used in conjunction with information on discharges, flow and water level data, and water status to identify if there are any rivers, lakes or groundwater bodies that have unsustainable abstractions that require active management.

The Department of Housing, Planning and Local Government launched a **register of water abstractions** in accordance with the above regulations in August 2018 (link). People who abstract **25 cubic meters (25,000 litres)** of water, or more per day, are required to register their water abstraction. The register is overseen by the Environmental Protection Agency and if you have an existing abstraction (or multiple abstractions) greater than (or equal to) 25 cubic meters per day, it (or they) must be registered through the EPA EDEN portal by **16 November 2018**. Thereafter, for new abstractions, there is a requirement to register within one month of the commencement of the abstraction. There is no requirement to register abstractions with a daily maximum volume of less than 25 cubic meters (25,000 litres).

Further details on how to register an abstraction can be found on the EPA website, at the following link. A list of FAQs (link) and Guidance on Water Abstraction Registration (link) are also available on the EPA website. For any additional queries (not covered in the FAQs) contact the EPA on edenabstractionsupport@epa.ie Registration requires a farmer to provide a significant amount of information, indicating business type as farmer. This registration process has to be accepted by the EPA before you can continue. This makes registration a two-step process which cannot be completed in a single sitting. We have been requested by DAFM to encourage clients to register before the deadline. Additional information, including a Spreadsheet to calculate if you need to register can be found on http://www.epa.ie/pubs/advice/water/waterabstraction/

"Shall" means "Must" in Nitrates Regulations

Gerard McCutcheon

The EU Good Agricultural Practice for Protection of Waters Regulations (often referred to as the "nitrate" regulations) has been reviewed and updated. The new Statutory Instrument (SI 605 of 2017) came into effect on 20th of December 2017.

The limit of 170 kg of organic N per hectare still applies to all farms that import organic fertilisers such as pig manure. Article 20(1) now states **"where imported livestock manure is to be applied to the land on the holding, calculations shall be based on the previous calendar year's stocking rate."**

This change allows farmers that use pig manure, greater certainty in their calculations in the future. It will allow these farmers or their advisors/consultants do their calculations earlier in the year. If there were sheep or horses (or other non-bovine animals on the holding) they should be factored into the calculation to determine the organic N on the farm.

This change also means that the calculations for 2018 now must be based upon the previous year's N and P statement. Farmers who take pig manure should be made aware of this change. It is important that when you are asking them to sign the Form 3 you should ensure that they are aware of this change.

The Form 3 is a record of the total volume taken by each recipient farmer in the calendar year and is extracted from the Manure Register which every farmer must record as per Article 23 (g) of SI 605 of 2017.

Record 3 Forms (available from DAFM website) must include details of

- the total volumes of manure taken from your holding by each farmer,
- their herd number and address,
- the total nutrients in the manure exported (ie Nitrogen and Phosphorus),
- and, the signature of the recipient farmer and the "exporting" farmer confirming that these details are correct.

You should leave a copy of the signed form with the recipient farmer for his/her own records.

These forms must be forwarded to the Nitrates Section of the Department of Agriculture, Food and the Marine, Johnstown Castle Estate, Wexford. They must be submitted by all farmers who "export" animal manure from their holding.

The only acceptable proof of postage will be Swift Post Receipt or Registered Post Receipt.

This must be submitted before 31st of December, 2018.

Pig Farmers' Conference 2018

Our annual Pig Farmers' Conference 2018 took place on 23rd October at Cavan and 24th October at Horse & Jockey. Both days were well attended. We had two invited guest speakers this year, Dr. Chantal Farmer, a research scientist in sow lactation biology with Agriculture and Agri-Food Canada at Sherbrooke Research & Development Centre in Quebec, Canada who discussed milk production and mammary development in pigs, and Dr. Carlos Piñeiro, PigChamp-Pro-Europa who spoke about the "super sow", looking at selection and management of sows based on data analysis. See full report in next month's newsletter.

Emer McCrum, Teagasc PDD, Ballyhaise and guest speakers Dr. Carlos Piñeiro and Dr. Chantal Farmer at this year's Teagasc Pig Farmers' Conference in Cavan.

Student Updates

Congrats to our Walsh Fellow Student, Maria Rodrigues da Costa, who has successfully finished her PhD project at the Pig Development Department in Moorepark. Maria studied management practices in Irish pig farms and their effect on pig performance.

We would like to welcome Orla Kinane to the Teagasc Pig Development Department. Orla recently started work on her MRes project, and will investigate the use of free-farrowing crates, and how they affect the welfare and performance of sows and piglets. Orla is co-supervised by Keelin O'Driscoll, and Dr. Fidelma Bulter, UCC, and is the recipient of a bursary from the Irish Pig Health society.

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For more information

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