

2023 NEWSLETTER

PIG HEALTH CHECK PROGRAMME



PHC NEWLET V1.0 13.12.2023



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An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine



IFA

Bord Bia
Irish Food Board



Meat Industry Ireland
ibec

Teagasc
Agriculture and Food Development Authority



PIG HEALTHCHECK PROGRAMME UPDATE

CARLA GOMES | PIG HEALTHCHECK PROGRAMME MANAGER



Animal Health Ireland (AHI) is a public-private partnership between private sector organisations and businesses in the agri-food sector and the Department of Agriculture, Food and the Marine (DAFM). Pig HealthCheck (PHC) is an AHI-led programme, which started in 2019, co-funded by pig farmers and DAFM, with the aim of improving the economic, environmental and social sustainability of the Irish pig industry through improved animal health and welfare. The programme focuses on providing a holistic approach to animal health and welfare at both farm and national levels, through the use of benchmarking tools to allow farmers to monitor their status for a range of measures and to compare their performance with the national profile.

THE PIG HEALTHCHECK PROGRAMME CURRENTLY ADDRESSES 5 KEY AREAS

1. BIOSECURITY

Conducting biosecurity assessments on farm, delivered by trained private veterinary practitioners (PVPs) and funded through the Targeted Advisory Service on Animal Health (TASAH).

2. ANIMAL WELFARE

Conducting assessments of risk factors for tail biting, based on a tool developed in collaboration with Teagasc, DAFM and AHI and delivered by trained PVPs through TASAH.

3. ANIMAL HEALTH

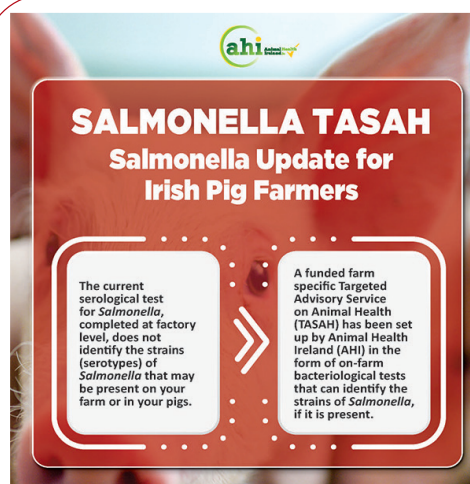
Capturing, analysing and reporting of abattoir data from ante- and post-mortem (AM/PM) meat inspection, based on the system being developed by DAFM. Currently only the AM data is being captured and displayed. DAFM is developing the system for PM data.

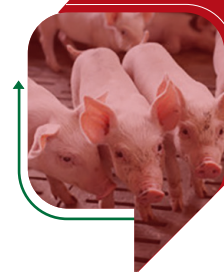
4. ANTIMICROBIAL USAGE (AMU)

Analysing AMU, using the database created by DAFM for recording AMU by pig farmers, and linking this data with health/disease data to demonstrate inter-relationships (e.g. low AMU associated with high health status).

5. VETERINARY PUBLIC HEALTH

Enhancing the control of Salmonella. This includes a new Salmonella TASAH activity ([read about it here](#)). Additionally, the salmonella serology score is being displayed by the PHC database.





By bringing together these 5 key areas at farm level the PHC programme will provide valuable information to the farmer, his/her veterinary practitioner and advisors that can be used to identify areas requiring improvement and agree targeted interventions. Ultimately, when coupled with benchmarking, this will help farmers to improve their production performance.

In 2023, activities of the programme have concentrated on adding new dashboards to the PHC database (**AMU dashboards – a guide to them is available here**) and promoting the other activities (biosecurity, animal welfare, Salmonella TASA).

The veterinary assessments for biosecurity, animal welfare and Salmonella are provided free of charge for farmers and are funded through TASA by the Rural Development Programme and DAFM, with payment made directly to the PVP following completion of the assessment/review. To find out more information about the service, click below. If you have not yet availed of these services, contact your attending veterinary practitioner.



Since September 2021, the biosecurity and animal welfare risk assessments are required annually as part of the Bord Bia Quality Assurance Standard. These assessments should only be done by the nominated attending veterinary practitioner. Each farm, when applying to get their herd number, has nominated an attending veterinary practitioner. These nominations (i.e. made to DAFM) are being used by the PHC database to identify who the attending veterinary practitioner is for each farm. Farmers who wish to update their nomination can do so by completing the Pig Herd Update Form, which is available by **clicking here** (Option 4). You can email it to the dedicated email address at this link, or alternatively post it to the address provided.

A biosecurity code of practice for indoor pigs has been developed and agreed by all stakeholders (**you can find it here**). The PHC Technical Working Group (TWG) is developing a code of practice for the control of parasites in pigs. This code will be available in 2024.

BIOSECURITY – PROGRESS OVER TIME

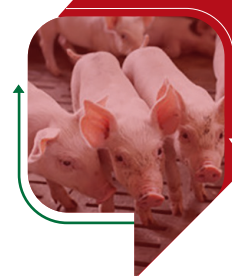
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WHAT IS BIOSECURITY?

Biosecurity refers to the set of measures taken to minimise the risk of introduction and spread of disease-causing agents (pathogens) on the farm. Pathogens can be either bacteria or viruses. Biosecurity is commonly split into external and internal components. External biosecurity includes all the measures taken to prevent pathogens entering or leaving the farm, while internal biosecurity covers all the measures taken to limit or stop the spread of pathogens within a farm. Biosecurity is vital for controlling disease spread, both those that are endemic (i.e., diseases already present in the country, such as Salmonella and PRRS) or exotic (i.e. disease not present in the country, such as ASF). The implementation of biosecurity measures has also been shown to have other positive effects. For example, in several studies with pigs, the level of biosecurity showed a positive correlation with the production results (such as daily growth) and the profitability of the farm. Along with this, the use of antibiotics can be greatly reduced, which, consequently, will reduce the development of antimicrobial resistance.

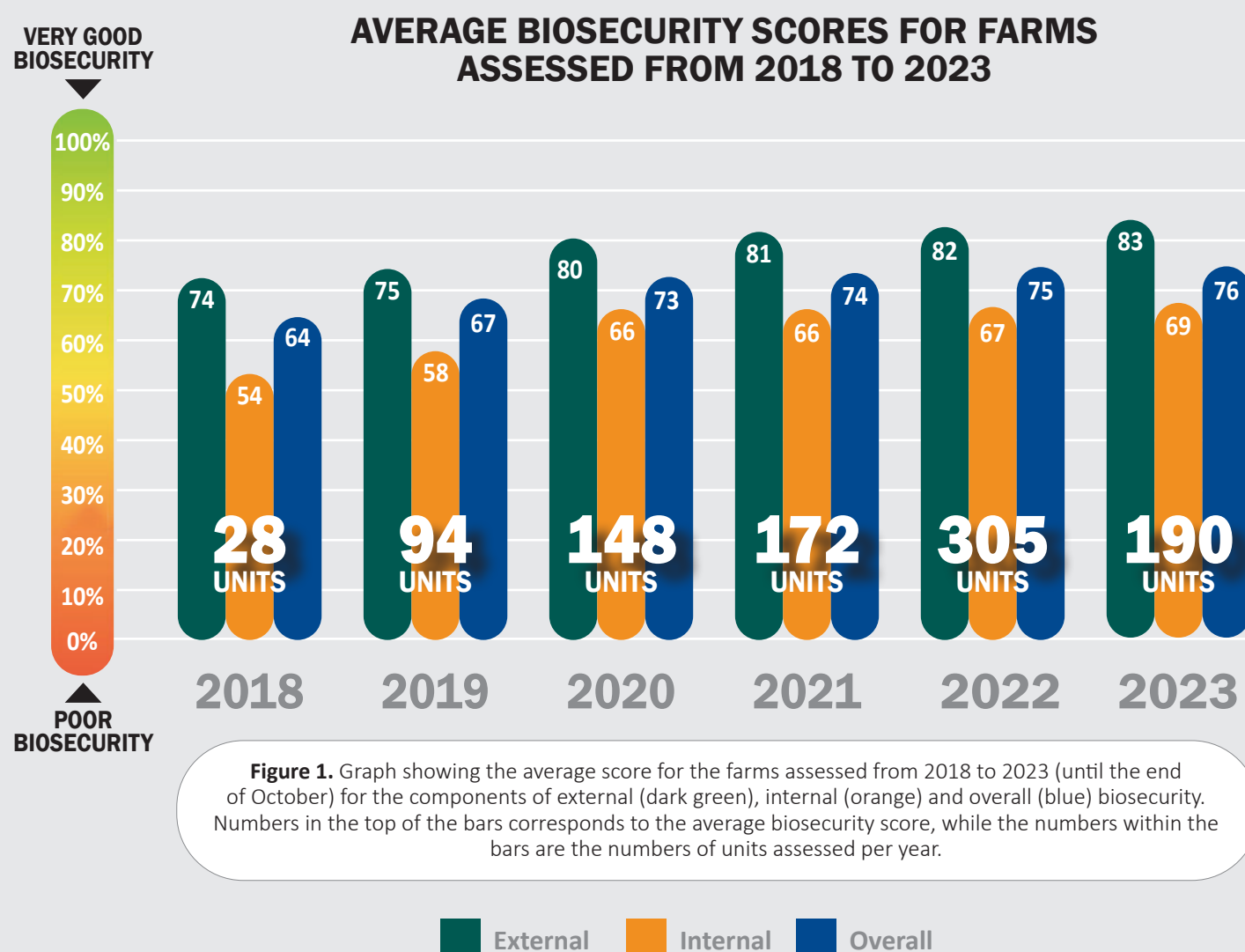


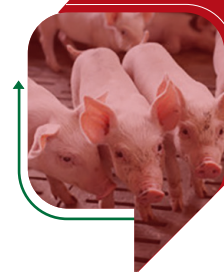


ASSESSING FARM BIOSECURITY

A trained veterinary practitioner nominated by you will review your farm biosecurity and agree with you up to three specific recommendations to improve it. This service is free and funded under the Targeted Advisory Service on Animal Health (TASAH) through the Rural Development Programme. Since September 2021, this assessment is required annually as part of the Bord Bia Quality Assurance Standard. The assessment of the farm biosecurity is done using the Biocheck tool. This is a risk-based scoring system developed by the University of Ghent to evaluate the quality of on-farm biosecurity in a scientific and independent way (<https://www.biocheck.ugent.be/>). External biosecurity and internal biosecurity are scored from 0% (poor biosecurity) to 100% (very good biosecurity) and are divided into several sections.

This TASAH activity started in 2018. Until the end of October 2023, 387 units have been reviewed at least once in terms of their biosecurity. Figure 1 shows the scores over the years as also the number of units assessed over time.

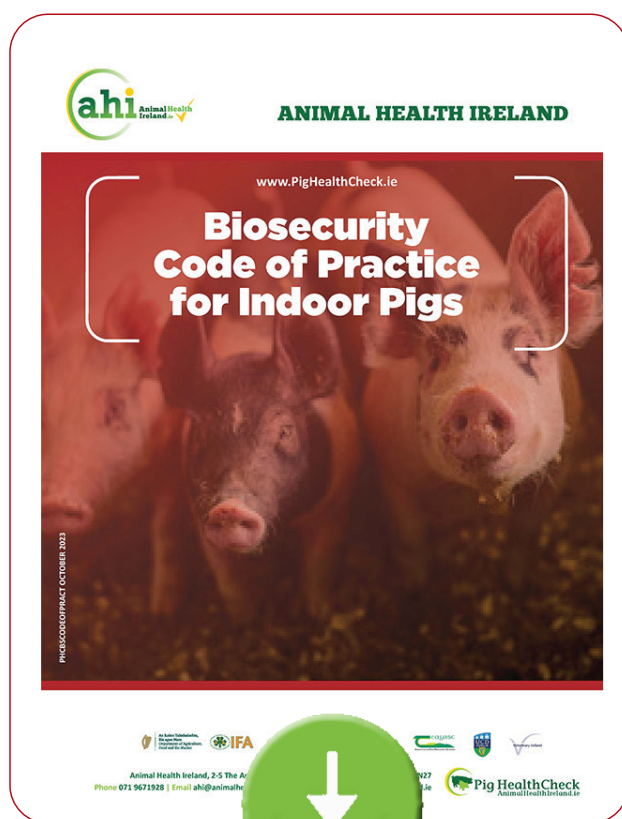




CODE OF PRACTICE FOR BIOSECURITY

The Technical Working Group and Implementation Group have developed a biosecurity code of practice for indoor pigs. The code is a long document, but it has been summarised into two pages. You can find the document [here](#).

This document is a guideline for best practice, and you can use it as a reference to consult when trying to improve weak areas in your farm.



FUTURE WORK ON BIOSECURITY

The implementation of biosecurity measures is largely insufficient at world level, with big differences between farming systems and countries. Furthermore, many of the current biosecurity guidelines are based on empirical evidence making it difficult to rank measures by importance.

To try to fill these gaps, a new European project started at the beginning of 2023. Called 'Enhanced and cost-effective biosecurity in livestock production' (Biosecure), the project involves 17 partners from 12 European countries and will run from 2023 to 2026. In Ireland, the organisations involved are Teagasc and AHI.

The goal of the project is to improve the ability of decision-makers in livestock farming to understand, prioritise and implement evidence-based, cost effective, and sustainable biosecurity management systems in different livestock production chains. You can read more about it [here](#).

In future newsletters we will update you on this project's findings.

Related to this area, AHI and Teagasc, jointly with University of Barcelona, UGent and University of Liverpool will look at the cost-benefits of biosecurity measures in the pig and poultry sectors. We hope that this project can quantify the benefits of biosecurity in these two sectors in Ireland and contribute to the decision making at farm level.

THE PIG HEALTHCHECK DATABASE – ANTIMICROBIAL USAGE DASHBOARDS

CARLA GOMES | PIG HEALTHCHECK PROGRAMME MANAGER



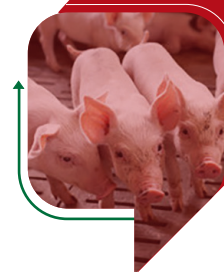
Central to the Pig HealthCheck (PHC) Programme is its database which allows all data captured from programme activities to be linked and displayed to the farmer and their nominated attending veterinary practitioner. For each component of the database, dashboards have been created which display farm data and benchmark them against the performances of other herds and national averages. The PHC database has been developed for Animal Health Ireland by the Irish Cattle Breeding Federation (ICBF).

You can access the database via the link below. On the AHI website farmers can find guides and videos that will help them to navigate the current dashboards. In case you need assistance accessing the database please get in touch with AHI by email (pigs@animalhealthireland.ie) or phone (+353 (0) 71 9671928).



Currently when farmers log on to the database, they can access their biosecurity and animal welfare assessments, their Ante-Mortem (AM) factory data, Salmonella serology data as part of the National Salmonella Control Programme, Salmonella TASA activity, and during this last year (2023) their antimicrobial usage (AMU) data (if they have allowed sharing these data with the PHC programme).





ANTIMICROBIAL USAGE DASHBOARDS

The Antimicrobial usage (AMU) Dashboards display AMU for the farm reported by quarter (Figure 2).

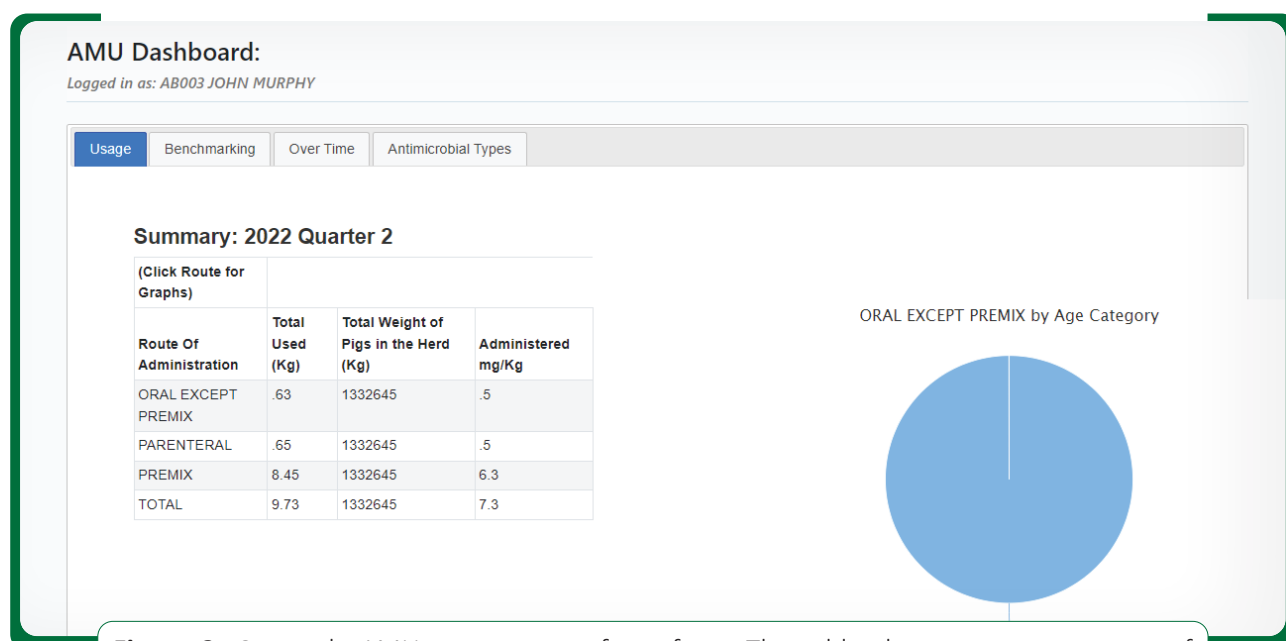
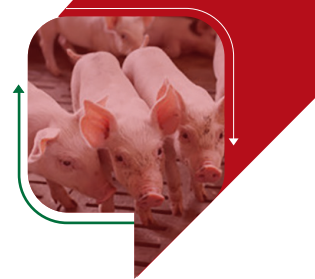


Figure 2. Quarterly AMU usage report for a farm. The table shows usage per route of administration for that quarter in terms of both total usage (Kg of antimicrobials used in the last reported quarter; and usage based on the total amount of antimicrobial used in milligrams (mg) divided by the total weight of the pigs in the herd (mg/kg). For this calculation, the total weight of pigs in the herd is determined using standard weights used within the EU for this purpose. This measures the usage by herd size and it is the indicator chosen to compare with other farms and monitor usage at national level. The pie chart on the right shows the age categories of the pigs in which antimicrobials were given by oral route of administration. Charts for the other three routes of administration can be seen by clicking in the table on the route of interest.



AMU dashboards are now available in the PHC database!



The graphs allow benchmarking against other farms (Figure 3) and tracking of progress over time at farm level (Figure 4).

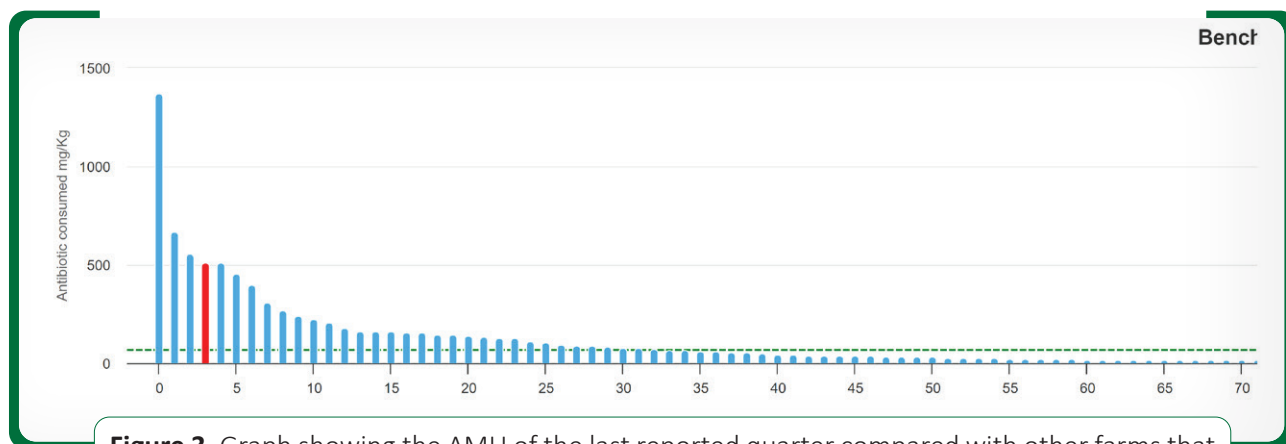
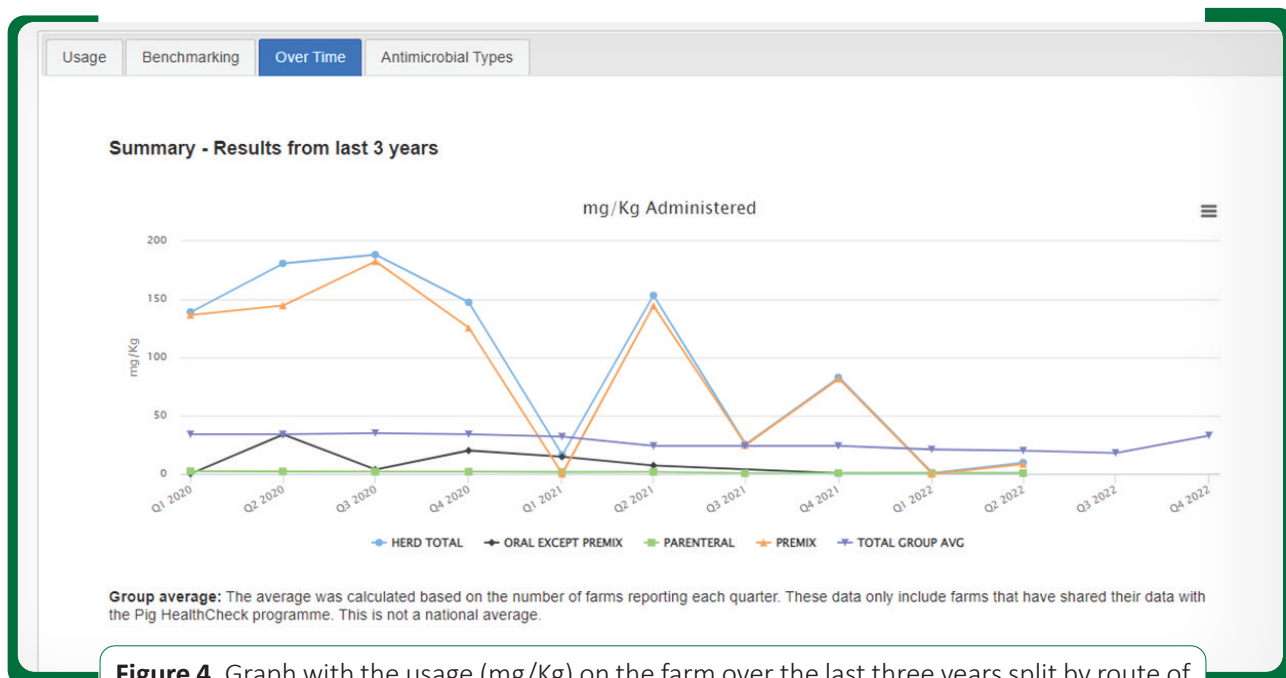
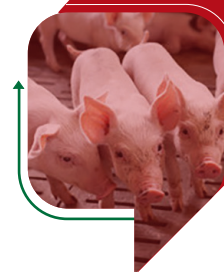


Figure 3. Graph showing the AMU of the last reported quarter compared with other farms that have shared their data with the PHC Programme. The farm AMU results will be highlighted in red with the other farm results highlighted in blue. Usage is compared based on mg/Kg. Bars are ordered from high usage (left) to low usage (right). The green horizontal line represents the group average for that quarter (calculated based on the number of farms reporting that quarter). This data includes farms that have shared their information with the PHC Programme. Therefore, this is NOT a national average.

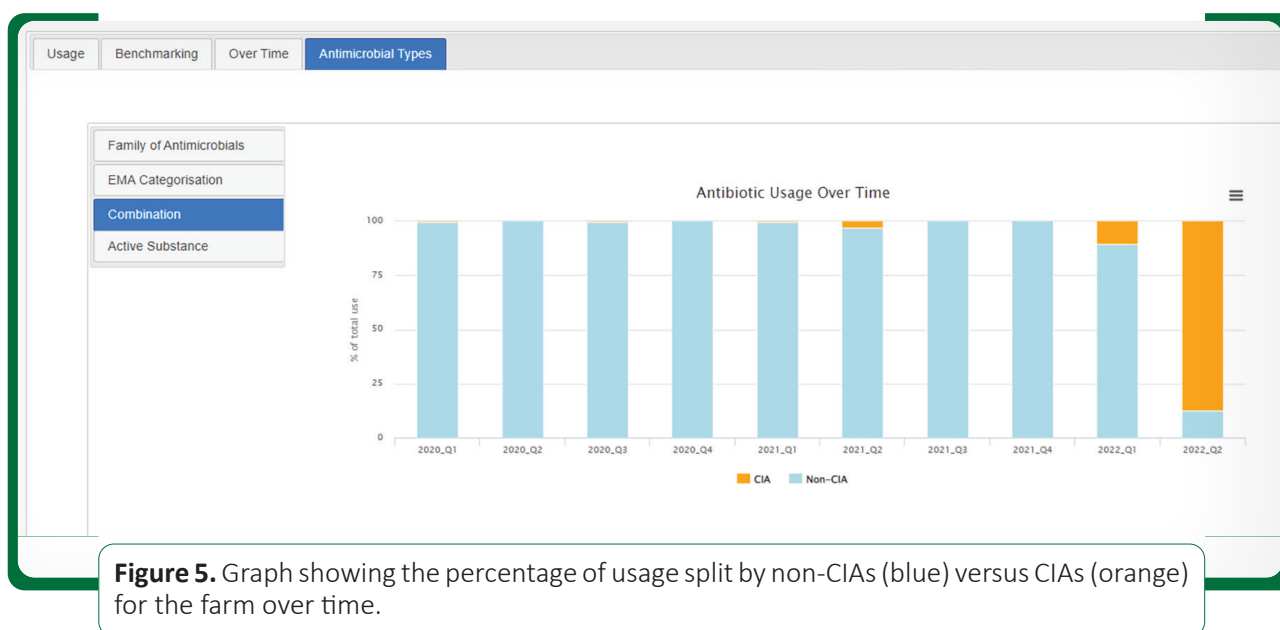


Group average: The average was calculated based on the number of farms reporting each quarter. These data only include farms that have shared their data with the Pig HealthCheck programme. This is not a national average.

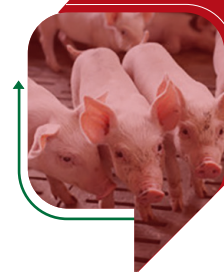
Figure 4. Graph with the usage (mg/Kg) on the farm over the last three years split by route of administration (oral except premix, parental, premix), total usage for the farm and the group average for total usage.



The dashboards also allow comparison of usage at farm level of different classes of antimicrobials, splitting, for example, the AMU between critically important antimicrobials (CIAs) and non-CIAs (Figure 5). CIAs are groups of antimicrobials considered to be critically important in human care as they are the antibiotics of last resort to treat disease when other antibiotics have failed. The Department of Agriculture, Food and Marine have a policy document outlining the conditions under which the Highest Priority Critically Important Antimicrobials (HPCIAs) can be prescribed and used. Given the importance of these HPCIAs in human health these antimicrobials should NOT be used prophylactically, i.e. to prevent disease or as first line of treatment in animals. They should only be used following veterinary advice, where there is no effective alternative antimicrobial available for the treatment of a specific animal. Restricting the use of these particular antimicrobials is vital to keep them effective for future use in human health but also to keep them available and effective to protect animal health and welfare.

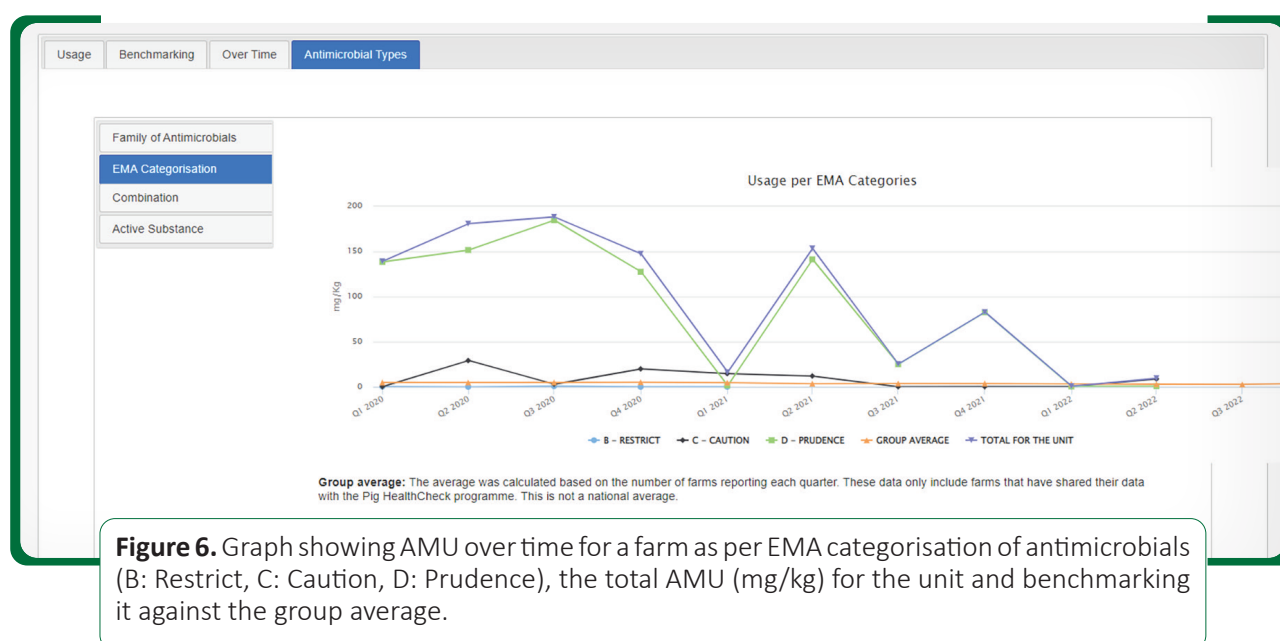


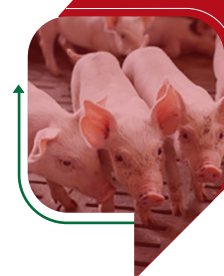
CIAs are groups of antimicrobials considered to be critically important in human care as they are the antibiotics of last resort to treat disease when other antibiotics have failed.



An alternative way of viewing antimicrobials usage based on the EMA (European Medicines Agency) categorisation of antimicrobials is also available (Figure 6). This has four classes:

CLASS A AVOID	Antibiotics in this category are not authorised as veterinary medicines in the EU and should not be used in food-producing animals.
CLASS B RESTRICT	Antibiotics in this category are critically important in human medicine and use in animals should be restricted to mitigate the risk to public health and should only be considered if antibiotics in other categories (c and d) are not effective. <i>(examples: colistin, enrofloxacin)</i>
CLASS C CAUTION	Antibiotics in this category should only be considered when there are no antibiotics in Category D that could be clinically effective. <i>(examples: tylosin, lincomycin)</i>
CLASS D PRUDENCE	Antibiotics in this category should be used as first line treatments and they should be used prudently and only when medically needed. <i>(examples: amoxicillin, oxytetracycline)</i>





To share your AMU data with AHI (and have access to these dashboards) go to the Help section of DAFM AMU online service, change your settings of '**ICBF Concession**' to Yes and press '**Save**'.

The collation of these data has allowed to monitor progress over time at country and farm level. As an example, looking at the usage per population (mg/Kg) for the last three years for a cohort of farms that reported their usage (Figure 7) we can see a decrease in the usage over time. This highlights the efforts being made by farmers in collaboration with their service providers to reduce their AMU.

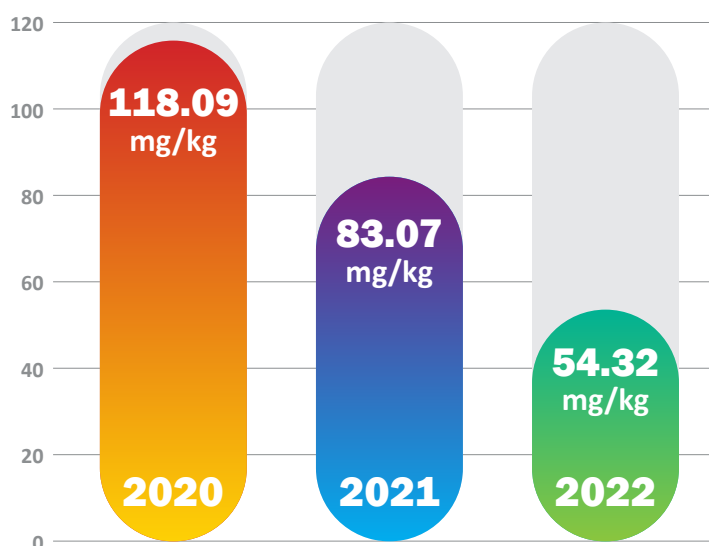
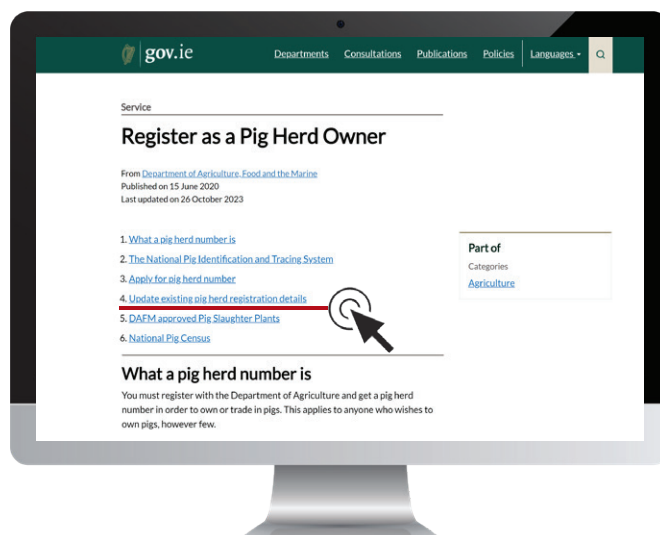


Figure 7. Graph showing antimicrobial usage for a cohort of 236 farms over time. Usage was assessed as the total mg of antimicrobials consumed per year for the 236 farms divided by the population (in Kg) per year for the 236 farms. 2023 data was excluded as final figures for this year are not yet available.

To Note: It is vital that farmers have nominated an attending veterinary practitioner who will be responsible for carrying out the TASAH biosecurity assessment, TASAH animal welfare assessments, and Salmonella TASAH assessment, among other responsibilities, for their herds. The nominated attending veterinary practitioner for a farm is the only person that can input data related to that farm into the database. If farmers need to nominate a veterinary practitioner for the first time or to update their nominated veterinary, they can do this using the Pig Herd Update Form at: <https://www.gov.ie/en/service/fc1b6-register-as-a-pig-herd-owner> (Option 4). This can be emailed to the dedicated email address provided, or alternatively posted to the address provided.



SALMONELLA

TASAH ACTIVITY

CARLA GOMES | PIG HEALTHCHECK PROGRAMME MANAGER



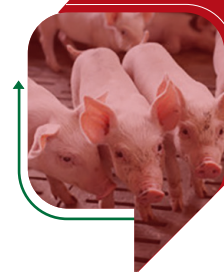
S*almonella* organisms are a group of bacteria that cause salmonellosis, a disease that can affect both animals and humans. *Salmonella* organisms can live in the digestive tract of a wide range of mammals (including people), birds and reptiles and are present worldwide.

WHY IS THE CONTROL OF SALMONELLA SO IMPORTANT?

There are many strains (serotypes) of *Salmonella* that can affect human health but the serious serotypes, *Salmonella* Typhimurium (ST) and monophasic *Salmonella* Typhimurium (mST) are the two most commonly associated with the consumption of pig meat and are also the most problematic serotypes on pig farms where they are easily transmitted between pigs and humans.

- Due to the risk to human health, there has been ongoing surveillance at European level to measure the levels of these *Salmonella* strains in pigs. Ireland has been shown to have higher than average levels of both of these disease-causing strains.
- There is a significant reputational risk if there was ever a case of *Salmonella* caused by these strains in people, as modern diagnostic techniques enable identification of sources of food disease outbreaks to country level.
- A further issue is that most ST and mST strains isolated from pigs and pork products display multiple drug resistance (i.e. they are resistant to at least three and usually more antibiotics).

It is necessary to know the serotype of Salmonella present to formulate a suitable 'on farm control programme'.



WHAT IS THE **SALMONELLA TASAH**?

This is a Targeted Advisory Service on Animal Health (TASAH) focusing on the development of a farm-specific Salmonella Control Plan. As part of the plan, it will be important to know what type(s), if any, of salmonella(s) you have present on your farm. Therefore, environmental samples from finishing pens will be collected by your veterinary practitioner (PVP), in addition to gathering supplementary management information (for a risk assessment tool), when carrying out the biosecurity assessment. These samples will be anonymised and tested to see if *Salmonella spp.* are detected, and, if so, which serotypes(s) are present. If *Salmonella* Typhimurium or monophasic *Salmonella* Typhimurium is detected, further sampling will be done by the PVPs in other sections of the farm to identify the areas contaminated with these strains. All this information (risk assessment tool, culture results and serology scores) will be used to develop the farm's control plan for *Salmonella*, which will be drawn up by the PVP in agreement with you, the farmer. The culture results will NOT be available to factories, nor will they be used to categorise farms for slaughter.

HOW CAN FARMERS AVAIL OF THIS SERVICE?

To avail of this service, contact your nominated PVP (the same vet who completes your biosecurity assessment and animal welfare assessment). Only PVPs who have undergone specific training are able to carry out this activity. To know more about this activity [click here](#).

WHAT CAN BE DONE TO CONTROL **SALMONELLA** ON FARM?

On-farm measures for control of *Salmonella* strains and other common diarrhoeal diseases of pigs generally fall under four broad headings:

- Changes to feed and water management (including organic acids),
- Changes to internal and external biosecurity including all-in, all-out and avoiding mixing practices,
- Enhanced cleaning and disinfection,
- Rodent control and
- Vaccination.

As many factors impact the occurrence of salmonella infection, addressing only one of these areas is not sufficient to impact the level of infection and contamination in a herd and several farm specific measures are likely to be required based on detailed knowledge and risk assessment of the herd. However, implementation of controls will bring benefits over time in terms of reduced salmonella levels, lower levels of other infectious diseases and improved general health and production of the herd.

Your specialist pig veterinary practitioner has the expertise to advise as to the most useful control measures for your farm.



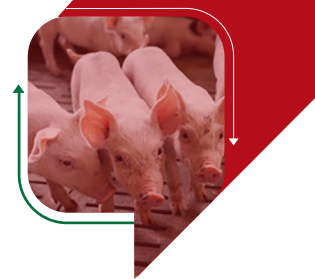
KEELIN O'DRISCOLL | TEAGASC

ValuePig PROJECT

Today's food systems face pressing environmental challenges because they operate on a wasteful linear model (i.e. a model in which finite resources are extracted to make products that are used—generally not to their full potential— and then thrown away), and at the same time, sectors that cannot generate an appropriate return are vulnerable. Irish pig farming is susceptible to both of these issues, in part due to dependency upon imported feed ingredients. There are also missed opportunities in the market when it comes to differentiation of high-quality premium pork products. 'Circular food systems' are a promising pathway to ensure a sustainable food future. A key principle of a circular food system is that monogastric farm animals, such as pigs, should convert agri-food production streams inedible for humans into valuable food products, recycling biomass and nutrients back into the food system. Teagasc personnel in both the Pig Development Department and Food Research Centre in Ashtown, along with collaborators in UCC and Wageningen University, have come together and developed a new research project, ValuePig, which will be the first to assess the feasibility of integrating 'circular feed ingredients' into Irish pig diets. The project will investigate quantification of potential ingredients and impact on production, through to their effect on final product quality.

Approximately 30% of food is lost between harvest, retail and the consumer. Incorporation of a portion of this loss into pig diets, (i.e. 'Circular Feed Ingredients', CFI's) would support a circular economy, and reduce the environmental impact of pig production. CFI's are currently usually considered by-products, co-products, leftovers, or simply waste streams from other processes at different stages of the Irish Agri-food chain. Their use as a feed ingredient for pigs could impact not only the pig industry, but plant-based food processors who could attain an outlet for waste. As CFI's are currently under-utilised in Irish pig diets, in part due to a lack of knowledge of available streams, the first stage of the project will be to identify available options. Following on from this, a Circular Food Systems model will be applied to Ireland to predict the volume of pork that could be produced with incorporation of CFIs. Diets that are rich in these ingredients will

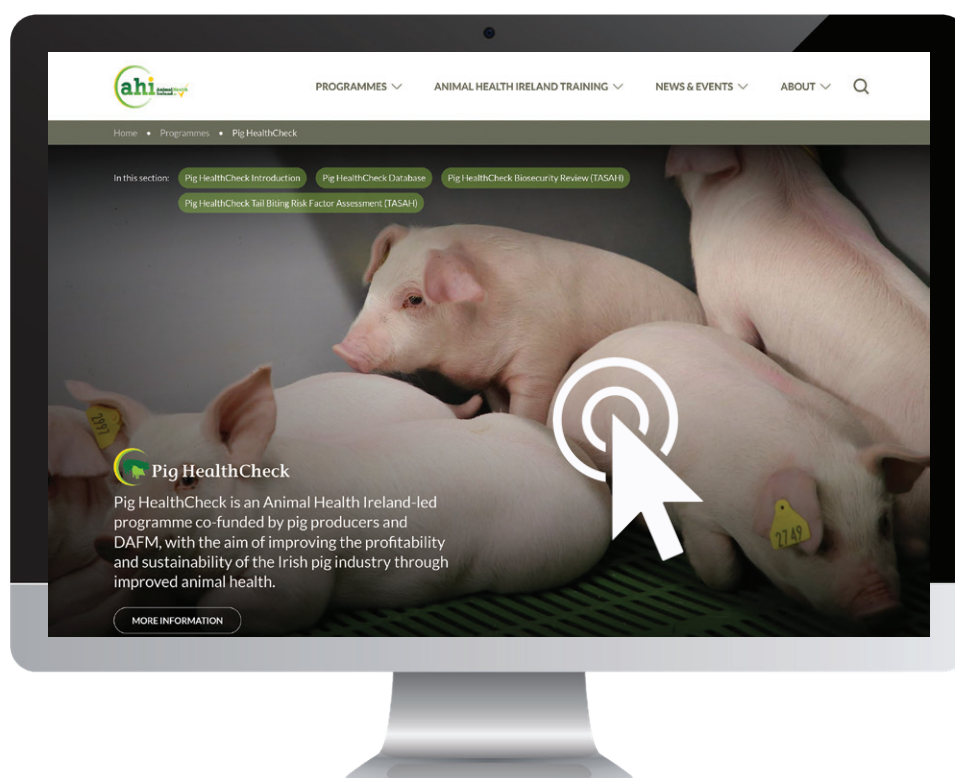




be formulated and tested in the Moorepark pig research centre. The results will be used not only to assess the impact of CFI rich diets on pig health and welfare, but also to improve the model's ability to estimate how much the environmental impact of pork production could be reduced.

Both fresh and processed Irish pork products are a source of high-quality protein. However, the Irish pork portfolio needs examination, and new opportunities to add value identified; the premium paid for value-added is significantly higher than commodity pork (43% value in export returns, v's 19% export volume). The project will also provide underpinning science to support processing of sustainably produced pork (including lesser value cuts) into value-added products, taking cognisance of the market. A market review will assess scope for added-value pigmeat products, and a range of approaches to develop tailored added-value fresh and processed pigmeat offerings will be utilised, including from the experimental CFI nutrition trials. The impact of inclusion of CFIs on pork quality parameters of high relevance to consumer and processor will be studied, and tools for validating authenticity and quality will be assessed. Thus, we will investigate multiple means to capture additional value in pigmeat through developing products that return significantly more than commodity values, and addressing sustainability issues that are likely to become increasingly important.

Improving the environmental sustainability of pork production, while optimising feeding related animal welfare concerns (e.g. increasing feed space, etc.) will improve acceptability of pork production to the consumer, thereby adding extrinsic value to meat. Thus, ValuePig will provide a means to capture value associated with intrinsic and extrinsic quality of the whole pork carcass from a sustainable pork system approach, supporting successful diversification of the pork production chain.





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