PIGS

May 2020

Editor: Amy Quinn

Welcome to May's Newsletter

Amy Quinn

This month the pig sector took a financial hit as a result of the on-going global pandemic with a drop in pig price. There was also concerning news relating to COVID-19 infection in pork slaughter plant workers. There was some impact on slaughtering numbers but it is hoped that this effect will be short-lived.

Over the coming weeks the Pig Development Department (PDD) is carrying out a pig sector survey. This survey will gather basic information on all Irish units in order to keep us up-to-date with herd size and management practices on farms. A link to the survey and further details can be found later in the newsletter. We strongly encourage all producers to complete the survey.

The Teagasc National Herd Performance Report for 2019 and accompanying poster were released this month. All producers will receive a copy of the report and poster in the post and both are available on our website.

In June the Teagasc PDD will be launching a webinar series for Irish pig producers and all those involved in the sector. The initial 6 webinars in the series will be dedicated to aspects of the Lean Project 2020, funded by DAFM, and will run from June to September 2020. Further information can be found later in the newsletter.

This month we found out there were two Irish EU PiG Ambassador winners this year, Patrick Ryan in the Health Management category and Pat O'Keeffe in the Precision Production category. Congratulations to both.

We would also like to take this opportunity to highlight that if any producer requires an urgent advisory visit please contact your Specialised Pig Advisor.

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Teagasc
Agriculture and Food Development Authority

Herd Performance in 2019

Gerard McCutcheon

All the 2019 data from the e-Profit Monitor (ePM) system has been compiled into the National Herd Performance Report for 2019. This article briefly compares the 2019 data with the 2018 figures. The 2019 data set includes 94 herds with an average of 831 sows per herd which is over 52% of the national sow herd.

Table 1. Sow performance figures.

	2018	2019
Born Alive/ Litter	13.69	14.12
Piglet Mortality %	11.1	11.3
Litters / Sow / Year	2.34	2.28
Weaner Mortality %	2.90	2.89
Finisher Mortality %	2.43	2.67
Pigs Produced/Sow/Year	**26.9**	**26.8**

The born alive increased in 2019 to over 14 but the number of litters per sow per year was lower and this was the main factor to the slight drop in pigs produced per sow per year of 0.1 in 2019.

The growth rate increased by 7 grams per day in 2019 while the feed conversion increased slightly (Table 2).

Table 2. Weaning to Sale performance figures

	2018	2019
Live weight at sale kg	113.5	105.8
ADG Weaning to Sale g	717	667
FCE Weaning to Sale	2.43	2.47

Pig Meat per Sow per Year

The parameter "kg of pig meat per sow per year" is calculated by multiplying the number of pigs produced per sow per year by the average carcase weight. The second item is the "tonnes of feed /sow /year". This is calculated by adding the total tonnes of all feed used in the year and dividing it by the average sow herd size (Table 3).

Table 3. Feed required to produce carcase gain.

	2018	2019
Pig meat/Sow/Year kg	2319	2324
Feed/Sow/Year t	8226	8314
Feed kg /kg of Carcase	3.55	3.58

In the year 2000 the output of pig meat per sow was 1471 kg and required 5385 kg of feed to produce this. This is a requirement of 3.66kg of feed per kg of pig meat produced. The figures in 2018 and 2019 are better than this and show a slow improvement on this parameter over time.

These figures show that the performance on Irish farms did not change very much in 2019 compared to 2018. However over time pig production is becoming more and more efficient.

All producers will receive a copy of the report and poster in the post and both are available online (www.teagasc.ie/publications/?topic=animals%3Epigs). It is well worth a look to see how the Top 25% and Top 10% of herds are performing on certain parameters.

Gerard also recently discussed the key performance indicators and trends over the past number of years on the "The Pig Edge" Podcast. You can listen to the episode at: www.teagasc.ie/thepigedge.

Why, when, and how to practise euthanasia on-farm

Maria Costa

Euthanasia, or "good death", is the humane killing of an animal with minimal pain and distress. For the welfare of the pigs and staff, it is crucial that, once there are no treatment options, the animals are euthanized as quickly and humanely as possible. Likewise, euthanasia is an essential health and welfare tool to be used on-farm as often as necessary.

In this article, we are going to cover some of the main reasons to practice euthanasia, the pros and cons of the most common methods, the design of action plans to improve decision making and the training of staff.

Why to do it

The practice of euthanasia on-farm can serve multiple purposes, apart from safeguarding the welfare of pigs. By practising it when necessary and correctly, we ensure animal welfare (ending and preventing further suffering), animal health (preventing the spread of disease to other pigs), staff welfare (easing the psychological toll of looking after animals in pain and unresponsive to treatment) and better economic benefits (preventing further spending to control disease or treat helpless cases, feed costs, etc).

When to do it

The decision to euthanise a pig should be solely based on the assessment of it's health and welfare. It should be done in a timely manner to prevent prolonged pain or distress. Other factors like the method to use and the availability of skilled staff will dictate the "how" to do it.

Generally, pigs should be euthanised for two main reasons:

- Pigs are unresponsive to treatment or in pain which cannot be alleviated,
- Pigs are unfit for transport (including sows).

How to do it

After deciding to euthanise, the next decision is how to perform it. When choosing a method, different factors like the welfare of the pig, the safety, practicality and feasibility should be weighed up. The costs involved and presence of skilled staff also need to be taken into account. Table 1 shows the most common methods used on-farm, considerations on their use and the stages where they can be used.

Recently, gas euthanasia of piglets has been investigated and new commercial options are available. These consist of boxes where a gas or a combination of gases are used, causing oxygen deficiency (anoxia), loss of consciousness and a quick and painless death of piglets. They represent a very good and practical alternative to percussive blows to the head of piglets. In fact, this year, the winner of the British Pig & Poultry fair 2020 Pig World New Product Award was an MS Schippers Nitrogen euthanising box.

A euthanasia action plan should be written and be available at all times. Consult your PVP to design this and define the methods to be used in each stage. Standard Operating Procedures (SOP) for every method used on-farm should also be at staff's disposition and be updated and reviewed for training purposes annually.

Last but not least, promote an open debate on the best methods to use to encourage confidence and technical skills of the staff. Staff are the ones performing euthanasia and facing difficulties when doing it. Their perspectives are important to execute the euthanasia action plan and adhere to it over time. Euthanasia alone already takes a toll on the person who needs to do it, we must ensure all conditions are correct so that staff can confidently perform it without any delay, in a quick and safe manner. It is in everyone's best interest!

Useful resources

- Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing. See Annex I to check the list of all killing and slaughter methods permitted.
- For more information on when and how to perform euthanasia, check this booklet: "Animal welfare guidelines for emergency killing of pigs on farm" prepared in 2017 by the Farm Animal Welfare Advisory Council and the Department of Agriculture, Food and the Marine (https://bit.ly/2YZBHbK).
- For more information on the "Perspectives of Stockpersons and the Humane Euthanasia of Swine", read this article available at The Pig Site: (https://bit.ly/3dKu5h8).

Table 1. Common on-farm euthanasia methods.

Method	Considerations	Stages
Penetrative captive bolt	It causes simple stunning. An effective restraining of the pig is essential. Pithing of the brain or bleeding is necessary to ensure death. Moderate risk for staff.	Pigs >5kg. For larger finishers, sows and boars (with thicker skulls) ensure spring does not lose its tension over time.
Firearm with free projectile	A firearm authorization is needed. Beware of ricochet of bullets on the concrete floors or walls. High risk for staff.	Pigs >5kg.
Percussive blow to the head	Takes a toll on staff. A good technique is required to be effective at first blow. Aesthetically unpleasant. Low risk for staff.	Only piglets <5kg.
Gases	Moderate risk for staff	Piglets – not practical for larger pigs
Carbon dioxide	Min 80% concentration for pigs. Causes aversion and discomfort. Boxes commercially available.	
Carbon dioxide + inert gases(i.e. Argon, Nitrogen)	The mix with inert gases decreases the aversion and discomfort.	
Inert gases (i.e. Argon or Nitrogen)	Traditionally expensive (Argon). Commercial alternatives using Nitrogen are now available on the market. Welfare friendly.	

Development & implementation of a tail biting risk assessment tool on commercial pig farms (PigNoDock)

Roberta D'Alessio & Keelin O'Driscoll

The PigNoDock project has been underway since last year and aims to develop an effective protocol to assess and manage risk factors for tail biting, which is suitable for typical Irish production systems. It is well known that routine tail docking is not permitted in Europe, and in recent years the European Commission has been trying to determine the level of compliance with the law. The European Commission has requested each country to create an action plan which will outline how the member states are moving towards compliance. A previous study in Moorepark identified enrichment materials that are favorable to the pig, but control of tail biting in undocked pigs using only enrichment in addition to routine management is extremely difficult and unfeasible on commercial units. Due to the multifactorial nature of tail biting, the use of farm-specific approaches to tail biting risk assessments and tailored mitigation strategies are required.

PigNoDock aims to identify strategies that can reduce the risk of tail biting in commercial units using a tail-biting intervention programme (SchwIP) previously developed in Germany. SchwIP combines the advisory concept of animal health and welfare planning with a knowledge based software model for farm-individual analysis and feedback of risks for tail biting in pigs.

Step 1

The first task on this project was to develop a provisional tail biting risk assessment protocol, which Teagasc are carrying out in tandem with Animal Health Ireland (AHI) and the Department of Agriculture (DAFM). This tool is already in use by Private Veterinarians Practitioners (PVPs), who have all been trained through AHI, on commercial units. The tool involves the PVP assessing 6 pens on the farm, and answering some questions about facilities and the pigs, as well as behaviour observation. Before the use of this in the commercial unit, the PVPs were trained on the regulatory aspects of risk assessment (John O'Gorman, DAFM) followed by some background on risk factors and assessing these on farms (Keelin O'Driscoll, Teagasc). Following this, there was a classroom-based introduction to the risk factor assessment tool.

Where factors are identified that represent risks for tail biting, there is the opportunity for the producer and vet to discuss these and agree prioritised management changes.

To assess the system effectiveness, the Ph.D. student, Roberta M. D'Alessio, together with Keelin O'Driscoll and Laura Boyle, are correlating the results obtained from the provisional tools to the actual condition of pigs' tail in the slaughterhouse. This will then be compared to the risk assessment report, and fed back to the producer. Some of you have already carried out the assessment, and we were able to carry out factory assessments for some of the earlier ones. Unfortunately at the moment we are not able to

go to the factory due to COVID-19 restrictions, but we hope that we can resume this part of the project later in the year.

Part 2

The second step in the PigNoDock project is to modify the current German SchwIP programme so that it is suited to Irish production systems. The SchwIP programme involves a more detailed questionnaire to obtain information regarding infrastructure and management practices as well as animal based measurements such as tail lesion prevalence and observations of harmful behaviours. This is to develop a farm-individual risk profile during a one-day assessment. The profile is based on data from an interview and direct observations in the unit, which are compiled into a report that outlines farm strengths and weaknesses using software. The report then helps the farmer in deciding on aims and measures for his farm. Over time, as risks are identified and dealt with, there is a long-term reduction of farm-individual risks for tail biting.

This part of the project involves consultation with experts, such as PVPs, farm advisors, farmers, and stockmen, to assign 'weighting' values to factors associated with biting, and integrate the weightings into the software. To do this, we are creating an online survey to send to the experts, and ask for their opinion on the weightings that will be included in the SchwIP programme. The survey contains questions about infrastructure and management, and the experts will be asked for their opinion as to how important each is in reducing the risk of tail biting.

We are in the final stages of putting this together, and will be inviting you to take part in the coming weeks. The more responses we get, the better we will be able to assign weightings that are relevant to Irish systems, so all of your opinions are really valuable – if you have any questions about this, you can get in touch with your advisor, or the members of the PigNoDock team, and we can help you understand the process further.

Once this is carried out, the weightings will be added to the SchwIP programme, and it will be implemented in the Moorepark unit and, as we hope, on several commercial units. The team in the Teagasc Pig Development Department will also put together some workshops on the programme, and on risk factors for tail biting and how to mitigate them.

Many thanks to those producers who have taken part in the process already. For producers who have an inspection carried out at the factory, we will provide you with a report on the tail condition. Once we have enough we will also create a benchmarking report, so you can see where you farm lies relative to others in Ireland.

Ultimately, the aim is that the development of this risk-assessment protocol, with your contribution, will assist producers in voluntarily switching to not docking their pigs while minimising any negative impacts on the pigs or their business.

EUPIG ambassador success on the double!

Ciarán Carroll

Eight pig producers from across Europe have been awarded the title of EU PiG Ambassador to recognise their innovation in pig production. Amongst them are two Irish winners. The EU PiG Grand Prix is an annual competition which aims to identify and share innovative practices in pig production throughout the European network of pig producers, and beyond.

The network (an EU Horizon 2020 funded project) which has been in operation since 2017 aims to coordinate, collaborate and share findings from existing pre- farm gate research, share best practice on technical production and exchange approaches to knowledge transfer with pig producers and associated advisors.

A key part of the project is run as a competition with the "Grand Prix" designed to identify industry best practice each year in four theme areas (Health management, Precision Production, Animal Welfare and Meat Quality), with two challenges per theme. The Irish successes this year were in the Health Management – Use of Slaughter Data to Improve Health Outcomes and, Precision Production - Use of management systems such as LEAN management to reduce production costs.

For the Health Management theme, Patrick Ryan, in collaboration with Teagasc, used his slaughter data to develop a dashboard system to improve pig herd health on his farm. For the Precision Production theme, Pat O'Keeffe, implemented a 5S Lean management programme to improve work efficiency. This work was a collaborative effort under the Teagasc/Bord Bia/DAFM Lean Pig Project in conjunction with Lean consultant Barry O'Brien, Leading Edge Group. Full details of these projects will be outlined in future newsletters.

Congratulating the producers on their success, EU PiG coordinator Ben Williams, of AHDB in the UK, said: "Congratulations to the 2020 EU PiG Ambassadors. The full details about how each of the ambassador's innovations work in practice will soon be provided on the website https://www.eupig.eu/ Fundamentally, this competition is about connecting pig producers, creating a European network where new information and experience can be shared directly. This aims to ensure an ever more efficient and competitive industry. Using the EU PiG platform, producers are able to learn about the ideas and techniques used effectively across Europe to help improve the efficiency and sustainability of their own farm. This year's winning best practices should act as aspirational examples of innovative techniques used on pig farms to tackle each of the eight challenges."

Teagasc pig sector survey

The PDD is carrying out a pig sector survey. This survey will gather basic information on all Irish units in order to keep us up-to-date with herd size and management practices on farms. All information gathered is fully confidential and will not be shared with third parties. The information will be used for grouped data analysis and to develop and enhance the services delivered by Teagasc PDD to the sector.

This pig sector survey is available at: https://www.surveymonkey.com/r/N3Y5NBZ and we ask that **all farm owners complete a survey for each farm in your control**. Where a farm has a number of finisher sites associated with a breeding site we ask that the associated sites (rented or contract finishing) be included to show that farm as an Integrated herd.

The deadline for completion of the survey is June 5th. If you have any questions or require any clarification or assistance please contact your local Specialised Pig Advisor, contact details can be found at: www.teagasc.ie/animals/pigs/staff.

Webinar series launching in June

The Teagasc PDD will be launching a webinar series in June. The initial 6 webinars in the series will be dedicated to aspects of the Lean Project 2020, funded by DAFM and will run from June to September 2020. The Lean Project is a collaborative project between Teagasc, DAFM and Bord Bia.

Each webinar will feature a presentation by a panel of International Experts covering the following topics:

- Lean Principles for Pig Farming
- Biosecurity
- Nutrition of the Weaned Pig
- Supplemental Milk in the Farrowing Room
- Rearing Pigs with Intact Tails
- Strategies to Reduce Antibiotic Usage

The webinars will be interactive so all attendees are welcome to put questions and comments to our speakers. Further information, including dates, speaker details and information on how to join the webinars will be circulated in the coming weeks.

COST Questionnaire on consumer attitudes

Below is a link to a questionnaire developed at ILVO (Belgium) in collaboration with the COST IPEMA network involving several other European institutions including Teagasc. The questionnaire is on consumer attitudes towards different ways of producing pigs and in particular concerns consumer attitudes on alternatives to castration of male pigs. It is available in 17 languages. While castration of male pigs is not an issue in Ireland it is important that Irish consumers have their say in this survey. The aim is to reach at least 500 valid respondents per country, preferably by the end of May.
https://survey.ilvo.be/index.php/663891?lang=en

"The Pig Edge" podcast series

A number of episodes of our new Podcast series, The Pig Edge, are available on Spotify, the Apple iTunes Store and the Teagasc pig website (www.teagasc.ie/thepigedge). A new episode will be aired every two weeks.

For more information:

Please visit our webpage at:
https://www.teagasc.ie/animals/pigs/

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