PIGS

February 2018

Editor: Amy Quinn

Welcome to February's Newsletter

Ciarán Carroll

Welcome to the February edition of our monthly newsletter. It's good to see European pig prices picking up again. Recent rises in German price have restored some confidence to the sector here. Improved prices here would enable farms to get on with well-needed renovation work that has started on some farms, and allow others to look at reducing debt and merchant credit.

The Teagasc/Bord Bia/Enterprise Ireland project investigating the application of Lean manufacturing principles on pig farms continues. Feedback to date has been very positive and we should have some results to report at the end of the first quarter. Once results of the pilot project are examined, it is hoped that funding can be secured to roll the process out further across the sector over time.

Last month we reported that QQI had finally approved the modules that Teagasc PDD submitted for the Pig Managers course. There is great interest in this course, which will be filled on a first come first served basis, so if there is someone from your farm interested or suitable make sure you contact us immediately to register them. Interviews will be held to shortlist the final numbers.

In this issue:

Teagasc
Agriculture and Food Development Authority

Waiting for the Post

Michael McKeon

Every week pig producers across the country receive their factory returns in the post, either in a traditional or electronic format. What do you do with yours? Do you give it a cursory glance to see if your hard fought pig price was correct or to see how heavy the pigs were? Perhaps you divide the total weight by the total cheque to see what your net price/kg was after all deductions and condemnations were included. The level of condemnations may even pique your interest to have a look at the condemnation breakdown, to examine your pleurisy levels etc. After that you probably save it away for the accountant and move on to more important jobs, does this sound familiar? If so then you are missing out on a lot of untapped information and ultimately potential profit.

A cursory glance at the factory returns is a little like getting an exam result and just reading the grade without examining the areas where you lost marks. The big advantage with pig production is that you get to do 'the exam' every week but your grade won't improve if you don't work on your weak points.

What can your factory results reveal?

To demonstrate this untapped potential I analysed the factory data from 950 pigs to see what information could be extracted.

1. Weight spread

The bigger the weight spread of your pigs then the bigger the risk of penalties for either being too light or more likely too heavy. Figure 1 shows the number of pigs at each weight category.

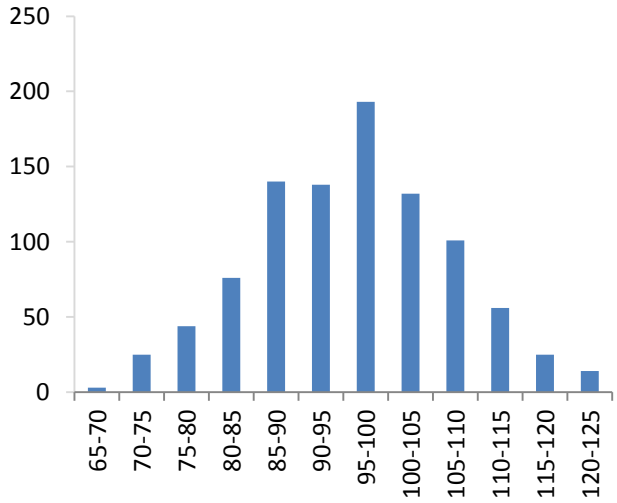

Figure 1: Slaughter weight spread (Kg dwt.)

This illustrates the number of very light and very heavy pigs. In this case there were no pigs under 65 kgs dead weight so no 'light' penalty. However unfortunately 21% of the pigs were 105kgs+ which did incur a penalty. In other words one in every five pigs that you put on the truck got a poorer price.

2. Backfat

A certain level of backfat is very beneficial as it increases the marbling content of meat therefore improving eating quality. In some U.S. slaughter plants they penalise you if your pigs are too lean (under 10mm) as it reduces flavour. However too much fat is neither beneficial to the producer or the slaughter plant.

High backfat levels indicate that the pigs are being fed too much dietary energy and therefore they store it as backfat. This means that you are wasting money feeding a diet excess in energy, costing you an extra €5-€10 per tonne. A potential saving of €30,000 per year on a 600 sow unit! Excess backfat also causes problems for the slaughter plants due to excess trimming and supermarket customers refusing to buy pork chops with excess fat on them.

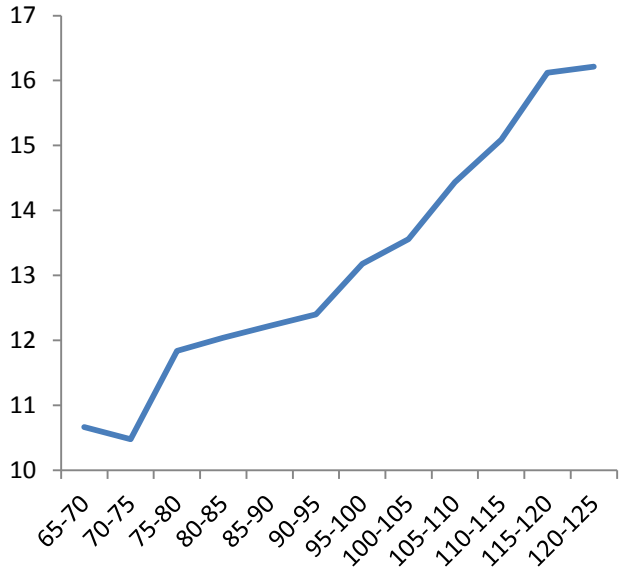

Figure 2: Backfat per slaughter weight (mm)

In this case, as Figure 2 illustrates, 73% of the pigs have a backfat of 14mm or less. The upward trend shows how pigs increase their backfat deposition as they get heavier. The rate of increase accelerates after 95 kgs deadweight. For a pig producer this translates into pigs having a rapidly deteriorating FCE from this stage onwards. It is generally expected that gilt backfats would be significantly higher than the boars especially at heavier weights but in this situation there was surprisingly little difference.

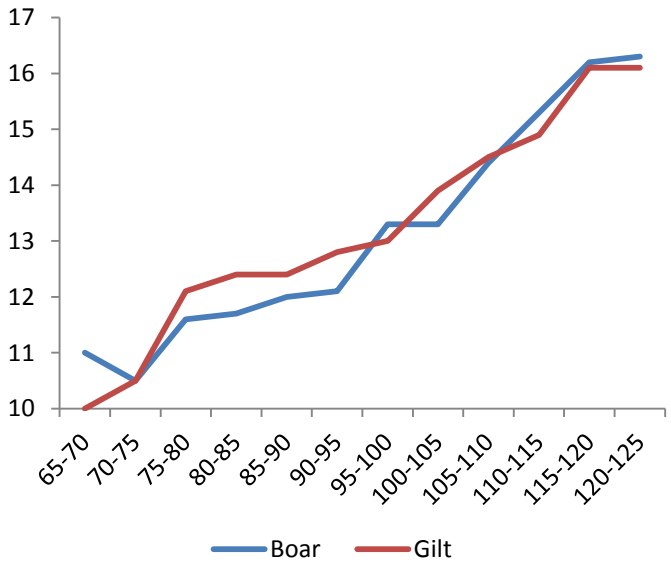

Figure 3: Backfat (mm) per slaughter weight

3. Condemnations

The rate of condemnations can vary from week to week and therefore needs to be recorded weekly but examined over a longer period of time (e.g. per month or per quarter). The main cause of condemnations will vary from farm-to-farm but can be due to abscesses, pleurisy etc. In this data-set the condemnation rate is very low at 0.5% which reflects the good health status and housing standard on the unit.

4. Income Lost

The income lost in this calculation is based on the condemnations loss and grading loss due to overweight penalties etc. It doesn't include the loss associated with excess backfat/FCE deterioration.

At a current assumed price of €1.40/kg the loss is:

- Condemnations = Total €640 = €0.67/pig
- Grading penalties = Total €2,166 = €2.28/pig
- Total Loss = €2,806 = €2.95/pig
- For an average 600 sow integrated unit this equates to €46,551 per annum.

Next step

All pig producers should be receiving their slaughter data in a format that is easy to use, at a minimum electronically and ideally in an excel format. In many other E.U. countries the slaughter plants have bespoke software that allows their pig producers to analyse their own data in a rapid, graphic format and then, most importantly, benchmark the farms data against the factory average. As an industry we need to get to this level for the mutual benefit of the slaughter plant and producer. In the meantime the data can be analysed with a little patience and perseverance.

Why should you bother with this extra work? Well as shown above, hopefully you'll have 46,551 reasons to do it! Next month I will examine how making changes on your pig unit may improve your grading.

Teagasc e-Profit Monitor

Gerard McCutcheon

The detailed analysis of the performance of herds that participated in the Teagasc e-Profit Monitor (ePM) recording system is compiled annually in late April/early May. This is when all the data on the ePM system for the previous year is crunched and treated as the output from the "national" pig herd to generate the ePM National Pig Herd Performance Report. This report summarises the national performance for the year as well as outlining the performance of the top 25% and top 10% of herds.

The data included in the 2016 analysis was from a total of 111 herds representing over 86,000 sows or 57% of the national commercial sow herd. The average size of the herds included is 752 sows and ranged from less than 100 sows to over 2500 sows. In 2014 there were 84,000 sows in the national dataset from 113 herds. In 2015 there were 96,000 sows from 129 herds. The 2016 National Pig Herd Performance Report is available at: https://www.teagasc.ie/media/website/publications/2017/teagasc-pig-herd-performance.pdf.

If you submit your farm data to the ePM system you can avail of the benchmarking report which benchmarks your current farm performance with the Average, Top 25% and the Top 10% of herds on the ePM system. Also if you are a member of a Discussion Group you may benchmark with other group members and a group average. This of course is only possible if all group members are prepared to submit their data to the ePM database and agree to the group report.

Additionally, if you are using the Agrosoft Program on your farm (i.e. the most recent version) using the ePM system has become even easier. You can now easily generate a "customised" report which is the data input sheet required to complete the ePM data. Contact your software supplier on this.

It is important to note that all data on the ePM is treated as confidential. It cannot be released by Teagasc to be used for a purpose for which it was not intended.

You should consider what you may be missing if you don't already use the system.

Extending "One Health" to "One Welfare"

Laura Boyle

In the December 2016 issue of the PDD Newsletter I explained why good pig welfare contributes to better pig health. This is because good welfare means less stress and therefore better functioning of the pigs immune system. Last November I expanded this argument to "good pig welfare can reduce the global threat of antimicrobial resistance" on RTE One's *"Ten things to know about"* programme. This may seem like an over statement but it is logical that if pigs have good welfare and this has health benefits then we can expect a reduction in antimicrobial (AM) usage, a reduced risk of developing antimicrobial resistance (AMR) and indeed of AM residues in the environment (Figure 1).

This theory underlies the rationale for the OIE (World Organisation for Animal Health) extending the 'One Health' theme to one of 'One Welfare'. The 'One Welfare' concept recognises the direct and indirect links of animal welfare to human welfare and environmentally friendly animal production systems. Examples of One Welfare provided by David Fraser at the 4th OIE Global Conference on animal welfare held in Mexico in 2016 include: (1) the welfare of food-producing animals is often crucial for the owners' livelihood and productivity; (2) the prosperity and mental well-being of stockpersons are important to permit good animal care and to prevent neglect of animals and (3) as acknowledged by "one health", the physical health of people and animals are inter-connected in many ways. Therefore 'One Welfare' encourages interdisciplinary collaboration to improve human and animal health and welfare internationally whilst promoting key global objectives such as supporting food security and environmental sustainability and of course encouraging responsible AM use.

A key component of One Welfare is that it must contribute to improving productivity within the farming sector through a better understanding of the value of good welfare standards. The problem is that good welfare standards are much less valued than vaccines, nutritional or breeding strategies because they are perceived to come at a high cost. This cost is not necessarily monetary. While improvements to housing are undoubtedly costly, improving management practices often requires significant changes in human attitudes and habits. Such behavioural change is notoriously difficult to achieve. Think of the numerous behavioural challenges people face every day such as giving up smoking or exercising more! This may partially explain why re-mixing of pigs is a widespread practice on Irish farms. In spite of the evidence that it is detrimental for pig

Figure 1. Process by which good pig welfare may reduce the threat of antimicrobial resistance

welfare and therefore pig health and performance, it requires breaking of a deeply entrenched management habit.

Reducing current stocking densities would also go a long way towards raising pig welfare standards. This does not necessarily require additional housing but can be achieved by reducing sow servings. As financially threatening as this may seem, producers who have done so report lower healthcare costs, higher growth rates and therefore faster throughput of pigs on the unit. There are also likely hidden benefits to human welfare in terms of better job satisfaction. Lower stocking densities, better lighting and fresher air provide a more pleasant working environment and there is less mental stress arising from caring for and euthanising sick pigs.

Getting back to the AMR issue it is clear that the most popular strategies for reducing AM use in pigs, namely vaccines, nutritional and breeding strategies do not work as effectively as they should against a background of poor welfare. This is why both the European Food Safety Authority and the European Medicines Agency propose a rethink of current systems of production in which animals are housed in high density, challenging environments to reduce AM use (https://www.efsa.europa.eu/en/efsajournal/pub/4666). Furthermore the value of good welfare standards promoted by optimal housing and management of pigs was identified as one of three main approaches to reduce the need for AM use in the pig industry by a report of an EIP AGRI focus group to which Edgar Garcia Manzanilla (EGM) and I contributed in 2014 (https://ec.europa.eu/eip/agriculture/en/content/animal-husbandry). The urgency to improve the welfare of pigs is further heightened by mounting pressure to cease tail docking and the imminent ban on zinc oxide. There is no way long tailed pigs can be raised on farms with management and housing problems.

Finally there are still people who argue that the link between AM use in animals and AMR in humans is not strong enough to justify taking steps to reduce AM use in the animal production industries and certainly not by improving pig welfare! Even though evidence that use of AM in the food chain is contributing to AMR in humans is slowly mounting, demonstrating the transfer of resistance between animals and humans is technically difficult. Genetic changes often occur during the journey of the resistant genes in bacteria or carrier elements between animals and humans. So just because bacteria are not the same at the two ends of the track it does not mean that no transfer of 'resistant material' occurred. AMR is a natural process that allows the survival of bacteria in the ecosystem and there are bacteria everywhere. Hence we cannot afford to be complacent in this, as in all battles against nature. Hopefully the concept of One Welfare will encourage us to make some small improvements to the way in which we currently manage and house our pigs, for all our futures.

Note: Some of the concepts, including the figure, in this article arose from discussions for an (unfortunately unsuccessful!) Horizon 2020 EU project (WELFARM) which EGM, Keelin O'Driscoll and I developed last year. I also acknowledge insights from Alessia Diana

Pig Farm managers Course

The Teagasc PDD is still enrolling for the Level 6 course in Pig Farm Management. A number of people expressed interest already and places will be limited. Please email amy.quinn@teagasc.ie if you or any of your staff are interested in enrolling.

22 Irish EU PiG Grand Prix Submissions

As mentioned in last month's newsletter we were looking to put in a number of Irish submissions to the EU PiG Best Practice Grand Prix that identifies ambassadors for best practices that address eight selected challenges. EU PiG is a Europe-wide network developed to improve the connection between pig producers and the latest science, husbandry techniques and technologies and is made up of a consortium of 19 organisations from 13 member states in Europe.

This year we are delighted to say we were able to put forward 22 best practices addressing this years selected challenges. Last year we had an Irish winner in pig producer Eugene Sheehan under the health theme. We hope that this year we can be as successful, if not more, than last year. Thank you to all the producers who allowed us to put them forward. We will keep you posted on the outcomes in future newsletters.

New arrival

The PDD wish to welcome Dr. Samir Ranjitkar to the pig research team in Moorepark. Samir is a native of Nepal and recently took up a post-doctoral position with Peadar Lawlor on the Enterprise Ireland project (ProSwine: Development of a probiotic strain as a substitute for in-feed medication for pigs). He will conduct animal trials to evaluate the efficacy of a probiotic strain which was isolated in a previous collaborative project between Teagasc and Waterford Institute of technology. We wish Samir every success in his studies.

International pig output data for 2017

A number of countries recently finalised their 2017 pig output data. In the U.S. the USDA has estimated pig production increased by 2.6% in 2017 and will further increase by a significant 5.4% in 2018 on the strength of a buoyant export market. The Germans reported a 1.5 million pig reduction in slaughterings during 2017 (57.9m) down from 59.4m in 2016 but the expectation of an increasing sow herd is expected to reverse this downward trend in 2018. Similarly the Dutch sow herd increased by 50,000 sows in 2017 to 1.075 million sows, while this shows signs of recovery the herd is still lower than in previous years.

Dates for your Diary

- The 2018 IPHS Symposium will take place on Tuesday April 10th at the Slieve Russell Hotel Golf and Country Club, Co. Cavan.
- The European Pig Producers (EPP) Congress 2018 'A Tail's Length Ahead' takes place from May 30th to June 1st in Lucerne, Switzerland.

For More Information

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Please visit our website at www.teagasc.ie/pigs/