Welcome to January’s Newsletter

Welcome to the January edition of our monthly newsletter. As we start a new year it is important to outline the goals and resolutions that we hope to achieve in the coming year. For this reason, January is the perfect time to reflect on the previous years’ farm performance and an opportune time to prepare a cash flow and business plan for the year going forward. Additionally, if you are using the Teagasc ePM PigSys system to monitor and benchmark your performance ensure you have finalised your production and financial figures. If you’re not already on the Teagasc ePM PigSys system, January is the perfect time to start. Please contact your Teagasc Pig Specialist Advisor for any queries relating to cash flows, business plans and ePM PigSys recording.

The SBCI Agri-fund is expected to be launched in the coming days and will be of great interest to many farmers. As the scheme is on a first come first served basis we encourage all producers interested in applying to the fund to promptly contact their bank for further information.

Looking ahead, the tight supply of EU slaughter pigs in the latter part of 2016 is expected to continue well into 2017, which should provide a strong pig price for the first half of the year. The record US wheat and maize inventories should also provide a strong buffer against any shocks in the 2017 crop, with resultant stable feed ingredient prices.

This month saw David Doyle take up his role as Specialist Advisor based at Ballyhaise Agricultural College. David is looking forward to getting out and meeting several of you over the coming weeks as he settles into his new role.

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- Research update & outlook 2017
- Optimum fasting times
- Market update

Editor: Amy Quinn
Great strides were made again in 2016 with regard to research development and output. The big news this year was that our new state of the art research facility opened in May. Almost as soon as the first gilts arrived on site, nearly every pig was enrolled into the research programme, so we all hit the ground running. The unit runs under a 3 week batch farrowing system, with 7 batches of sows in total. The first three batches of pigs born were used in experiments during the weaner and finisher stages, and the latter four batches of gilts were placed on a feeding experiment which started in early pregnancy. All pigs born since then are on experiment, with pigs booked out already until the last quarter of 2017. Having this facility has already not only allowed us to quickly and efficiently progress with planned projects, but to also easily add on small pilot scale studies and extra detailed measurements to our experiments, adding further value to the research. Another advantage of our new unit is that we are also now able to host more visiting and work experience students at undergraduate and postgraduate level. This has further boosted our research output as these students not only assist with our own projects and unit management, but often carry out their own small scale studies, helping to provide quick answers to practical questions.

Since last year, the significant increases in staff and student numbers slowed down, but we’ve seen quite a bit of change in our personnel. We said goodbye to two of our pig postdoctoral researchers, who completed their work on environmental enrichment (Amy Haigh, Entail) and use of tail lesions to investigate pig welfare status (Bernadette Doyle, PigWelFind). However we welcomed a new addition to the team, Natalie Riebez, who started working for the EcoFCE project. As well as this, two of our students successfully finished their research projects and submitted their theses: Kathryn Reid submitted her MSc thesis, investigating nutritional strategies for gestating sows (Optipig) and Nienke van Staavaren submitted her PhD thesis looking at validating tail lesions in the factory as an iceberg indicator for the welfare status of the pigs (PigWelFind). Since last summer 6 new students started their PhD studies, with 5 based here in Moorepark. All 5 of these students completed their undergraduate degrees in UCD, and 4 of the 5 are being funded directly by Teagasc. This is a great reflection of the standard of the students coming through the Irish educational system, and demonstrates the commitment of Teagasc to supporting research in the pig sector.

During 2016 some projects that were running for a few years concluded; PigWelFind, which investigated the relationship between lesions identified in the slaughterhouse and welfare conditions on farm, finished in the summer after the final report was launched to industry in the Horse and Jockey last April. The work identifying low cost solutions to Salmonella also wound up, and a dissemination day for stakeholders was hosted in Teagasc Ashtown last December. The EcoFCE project which is investigating the relationship between gut micro-biota and feed
efficiency is due to conclude early in 2017, so results from that project will be disseminated during the year.

**Ongoing projects**
Work categorising the relationship between antimicrobial usage and the welfare status of pigs (WelPig), and investigating the situation regarding respiratory pathology, risk factors and relationships with other pathologies, while developing cheap diagnostic tools (PigSurvPath) is ongoing, with some new studies having started up during the year. Optipig is progressing well, with all students completing new experiments during 2016. A year-long project investigating increasing the feed allowance for sows in late gestation finished in August 2016, a study investigating the use of rescue decks finished last December, and work investigating supplementation of gestating sows with Vitamin D and fish oil was completed at the research farm in AFBI, Northern Ireland. Optipig also gained a new PhD student, who completed an experiment looking at increasing the fibre content of gestating gilt diets, and supplementation with carnitine. The Entail project is also going well, with four experiments completed to date. We’ve investigated several types of wood, compressed straw blocks, two types of plastic toy, and the effect of increasing fibre levels for growing pigs, on the severity of tail biting. Work looking at feed enzymes (PigZyme) has also gone very well this year, with three experiments being concluded in the past year. A project dissemination day will take place on March 28th for the Green Farm project, which looks at the technical and financial feasibility of anaerobic co-digestion plants on Irish pig farms, further details are provided further on in this newsletter.

As well as this on-going work, several new projects really got going during the past year. The first experiment for the Giltlife project (management of replacement gilts) has kicked off; all gilts have been born, and the nutritional strategies will start to be applied next month. Peadar Lawlor is leading a project looking at management of wet feed systems, with a trial currently underway on commercial farms surveying hygiene in this type of feeding strategy. A detailed experiment incorporating fermentation of the feed is also scheduled to start in the Moorepark unit in early summer. The student working on the NetEnergy project, led by Edgar, will start her first experiment in February here in Moorepark, looking at diets which incorporate a variety of by-products. This work will form the basis of further experiments to determine the best options to move to a NE system. As well as these experimental projects, John Moriarty started his MSc with Amy Quinn, and will look at how digital technologies can be used to improve education and advisory services (DigiPig), and Laura Boyle is also supervising two PhD students in SRUC who are investigating issues surrounding aggression between pigs.

**New projects for 2017**
Several new projects will commence in 2017, most of which will incorporate both work here in our unit, as well as on commercial farms and in the slaughterhouse. This month a four year project started up which will benchmark water use on Irish pig farms, and investigate ways to optimise its use (WaterWorks), led by Amy Quinn and Keelin O’Driscoll. Work in the farrowing rooms is continuing, with Keelin aiming to start a project looking at farrowing room management strategies, using emerging systems (FarrMan). A new PhD student will be taken on board to
further develop the Moorepark Pig Production model, which Edgar is leading. Edgar is also taking on a PhD student to work on for a new Department of Agriculture funded project looking at antimicrobial use and resistance in animal production. Peadar has obtained funding to investigate probiotics for pigs, with the aim of developing a commercial product, and will take on board a new postdoctoral researcher to manage the project. Finally, Laura Boyle will start a new project (PLFPigCarc) developing and validating a computerised system for the recording of meat inspection findings on the slaughterline. This project will also involve the installation of Precision Livestock Farming (PLF) technologies (e.g. cough monitors) on pig farms to act as an early warning system for respiratory disease.

We would like to thank all of the farmers who have helped us during the past year by allowing us to use their facilities and pigs, without which most of these projects would not be possible. Updates on all the projects listed above will be provided at the Pig Research Dissemination day.

All in all, 2016 was a busy and exciting time for pig research with 2017 looking set to match it.

Optimum fasting times

Tomás Ryan

Fasting times is an area that like all routines on a pig unit constantly need to be reviewed, quantified and assessed over time. It is of major benefit to the pig, the producer and the processor that we get fasting times correct. This is a very serious issue on several fronts and if you as a producer are guilty of sub-optimum fasting times it may just be worth your while reading on.

The fasting period pre-slaughter in pigs still appears to be an area where producers could be losing money. The common perception is to ensure that pigs will not lose weight prior to slaughter at the expense of over-feeding animals. I thought it might be worth highlighting some research carried out previously in this area to show where some producers might be losing out.

Under fasting
In this scenario pigs are arriving for slaughter having consumed food in the last 10-14 hours.

Taking gut transit times into account it is fair to say that any feed supplied within this time frame is wasted and will never be utilised by the animal for growth. At today’s prices with finisher feedstuff averaging €270/tonne this is one area where some producers are literally throwing money down the drain. If you take a finishing pig on a wet feed system that receives one kilo of feed on a fresh weight basis within 12 hours of slaughter and utilises none of this feed for growth or reducing weight loss this can result in a loss of 27 cent per pig (€7000 per year on a 1000 sow unit). It will also have the compounding affect of seriously distorting your kill out percentage and increasing stress amongst pigs in transit.

Optimum fasting
In this case a pig should arrive at the factory without having endured any extra stressing associated with fasting, should not have lost weight due to fasting and should have a minimal
level of feedstuff in their gut. This can be achieved by ensuring the pig was last fed no sooner than 14-18 hours prior to slaughter, with about 16 hours being the optimum interval. This ensures that there is minimal risk of any contamination or spoilage to the carcass during processing by reducing the risk of gut puncture resulting in partial or full carcass condemnation events.

**Over fasting**

Over fasting of pigs will result in higher stress levels for the animals and higher incidence of aggressive behaviour which will bring about their own problems in sale weight pigs. An overview of the research shows that it is well established that pigs fasted for more than 18 hours lose carcass weight. At about 24 hours fasting a decrease of 0.6kg of carcass weight can result. This would equate to almost 1 euro per pig at today’s prices or almost €24000 per year on a 1000 sow unit.

There are many reasons for withholding feed prior to transport to the abattoir; these include reduced deaths in transport, pig welfare, meat quality and food safety. The latter is one of the biggest reasons and is very important in the control of salmonella and other microbial pathogens. Should a very full stomach be perforated during the dressing process it could contaminate and spoil the carcass.

It is important that each producer is aware of how long their pigs are travelling to the factory and spending in the lairage prior to slaughter and adjust their final feeding time for pigs beforehand. This will ensure that pig weight loss is minimised while feed wastage and pig stress is kept to an absolute minimum also. Remember routines are very important in any part of life and even more so in pig production but they must never become habits!

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**Market update**

Michael McKeon

The recent Bord Bia Meat Seminar provided some interesting insights into the current meat market across the beef, lamb, pork and chicken sectors.

Peter Duggan gave a comprehensive overview of the pig market which focuses largely on two issues: Pig supply and China.

Ireland’s overall pig supply was 1% higher in 2016 but within this figure there was an 18% decrease in our pig exports to Northern Ireland. This continues a declining trend since 2012 which has seen a reduction of 200,000 pigs per annum being sent north.

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
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<tbody>
<tr>
<td>Value</td>
<td>612,000</td>
<td>570,000</td>
<td>519,000</td>
<td>514,000</td>
<td>418,000</td>
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The EU sow herd is down 3.5% which is expected to reduce EU pig supply by 1.5% in the January-June 2017 period, therefore continuing the
current tight supply of slaughter pigs for another few months. Further positive news is that China’s pigmeat importation levels are expected to remain similar to 2016 which is good news for our exporting slaughter plants.

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<th>Table 2. Chinese Pigmeat (&amp;offal) Imports</th>
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<tr>
<td>China Pigmeat Imports (tonnes)</td>
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<td>2015</td>
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<td>1,000</td>
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The only ‘dark clouds on the horizon’ for Chinese-EU imports is that the U.S. is having the highest level pig slaughterings since 1943 (which may lead to greater competition in the second half of 2017) and the risk of African Swine Fever outbreaks in Denmark/Germany which could cause China to re-examine E.U. import requirements.

Mick Sloyan, AHDB, also highlighted that the most recent Chinese ‘5 Year Plan’ targets 38% of pig herds will be restrained or relocated to less populated/polluted areas of China. When this is translated into pig numbers it corresponds to a staggering 140 million pigs or 20% of total global production. The knock-on effect of this is that the recovery of the Chinese sow herd may be lower than originally expected.

The meat marketing aspect was covered by Neil Doherty from Sysco who represented New Zealand lamb in the U.S. He maintained that the market to target now is not the traditional high premium ‘white tablecloth’ restaurants but the ‘Fast & Family Casual’ food outlets as these have a much higher volume while still obtaining a good margin for the product. These outlets tend to focus on versatility and a twist on traditional ethnic dishes e.g. Caribbean etc. The other issue he highlighted was that consumers were increasingly concerned about responsibly, locally produced produce rather than organic or GMO free. To respond to this concern the ‘U.S. Lamb’ website allows consumers to enter their local ZIP code to see the local producers in their region who are members of the Quality Assurance Scheme.

The final speaker Dr. Carrie Ruxton from the UK Meat Advisory Board, addressed some of the health issues surrounding meat consumption. She highlighted that the health aspect of meat consumption has improved over the last 50 years due to the reduced fat content of lean meat from better genetics, nutrition and carcass trimming.

Reduced fat content of meat over the last 50 years:

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<th>Beef</th>
<th>Pork</th>
<th>Lamb</th>
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<tr>
<td>1950</td>
<td>25%</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td>Today</td>
<td>5%</td>
<td>4%</td>
<td>8%</td>
</tr>
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She also addressed the myth that the consumption of red meat leads to increased risk of bowel cancer by highlighting that U.K. vegetarians have the same risk of bowel cancer when compared to meat eaters. In conclusion she advised that people should aim for 70g/day (cooked weight) of red meat which corresponds to the UK average. She further recommended choosing lean cuts, do not burn, serve with plenty of vegetables and eat processed meats (pies, sausages) less often.

All of these presentations can be found under Bord Bia Meat Seminar 2017.
On-Farm Biogas Workshop
The need to mitigate greenhouse gas emissions from Irish agriculture is driving interest in on-farm biogas plants. The Green Farm project was funded by SFI in 2013 and has been investigating the technical and financial feasibility of anaerobic co-digestion plants on Irish pig farms. The project team is comprised of researchers from NUI Galway, Waterford Institute of Technology, and the Teagasc Pig Development Department (PDD).

As part of this work, Teagasc is hosting a workshop on “assessing the viability of on-farm co-digestion systems” at 10.00am on March 28th in the Animal Bioscience Research Centre, Teagasc Grange, Dunsany, Co. Meath.

Experts, from the Irish farming, energy, biomass and waste industry and Irish research institutes, have agreed to present on the potential for and the challenges facing the development of on-farm biogas plants in Ireland, particularly on-pig farm co-digestion of manure and food waste. Additionally, researchers within the Green Farm project will present their research results and its potential impact for industry. Topics to be discussed include:
- The economic potential for on-pig farm food waste biogas plants
- The barriers & incentives for the establishment of on-farm biogas plants in Ireland
- On-farm biogas plants in Europe- a continental perspective

The workshop will include a tour of the newly established biogas plant located in Teagasc Grange, as well as a panel discussion on the future of anaerobic digestion in Irish agriculture. A detailed agenda for the day will follow in the coming weeks. The event is free of charge but please register at www.bit.ly/2jeUYhK.

Arrival
David Doyle has now taken up his position as Pig Specialist Advisor with the PDD this month, as outlined in December’s newsletter. In addition, John Moriarty has joined the postgraduate team. He is undertaking an MSc involving the development and assessment of visual and digital tools to assist knowledge transfer in the Irish pig Industry. John is supervised by Dr. Amy Quinn (PDD) and Dr. Aoife Osborne (UCD).

Welfare Workshop
Two Welfare workshops are scheduled for the coming months. The first will take place in Teagasc Moorepark on the 24th February and the second in Ballyhaise Agricultural College on the 31st of March. If you or any of your staff wish to attend please contact Amy Quinn at amy.quinn@teagasc.ie or 087 3779015.

SBCI Agri-fund
The SBCI Agri-fund, a €150 million loan package targeted at reducing cashflow/feed credit problems, is being launched in the coming days by Ulster, AIB & BOI banks. The max/applicant is €150,000, based on 2.95% over 6 years. This equates to: €2,275/month, €27,300/year. It is on a ‘1st come-1st serve’ basis and is expected to be over-subscribed very quickly as it’s only sufficient for 1,000 applicant’s (at €150,000 each).

For More Information
This newsletter was edited by Amy Quinn, Pig Development Officer, Teagasc Moorepark, Fermoy, Co. Cork. For more information on any of the newsletter content please contact Amy at amy.quinn@teagasc.ie

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