Welcome to November’s Newsletter

Ciarán Carroll

Welcome to the November edition of our monthly newsletter. Pig prices continue to rise and are very close to crossing the unprecedented €2/kg mark. With profitability strong and stable at the moment we need to consider how to re-invest our earnings. If feed credit is an issue on your farm you need to prioritise reducing this first. Once that is dealt with you should draw up a list of priorities, areas that have been on the long finger in recent years due to poor profitability. Finally you should consider putting some money away into a “rainy day fund” for what hopefully will be much further down the line.

During November some of the Pig Development Department (PDD) group travelled to Denmark as part of the Lean Project study trip. This was a very useful trip and gave us a good insight into what the Danes see as relevant to their sector. It’s not much different to what we’re seeing here: sustainability is their mantra, looking at how we adjust and develop our business while catering for improved health and welfare of our pigs in an environmentally friendly way, all the while doing so in an economically sustainable way. Their big fear at present is African Swine Fever and they have invested significantly in preventative measures to ensure that it doesn’t get into Denmark.

All this is very relevant to Ireland as in the past week Teagasc Pig Development Department staff have been involved in two National events relating to this. The first was the DAFM Forum on “A National Approach to Biosecurity”, a forum attended by all agri-stakeholders with an interest in this area. Two excellent break-out sessions reviewed the current position on Irish biosecurity and how to develop an effective national approach to improve it. The second event was the Teagasc-organised One Health: Awareness to Action, Antimicrobial & Anthelmintic Resistance Conference in Tullamore.

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Greasy pig disease

Louise Clarke

What is it?
Greasy pig is a bacterial infection caused primarily by the bacterium *Staphylococcus hyicus* which is a common organism known to colonise the skin of pigs without causing disease. However, if the bacterium invades abraded skin it may result in infection. The disease is also commonly known as greasy skin, exudative epidermitis or marmite disease and can be associated with piglets or pigs soon after weaning and although it is unusual it can sometimes occur in adult pigs too.

Clinical signs
The disease most commonly occurs in piglets from 7-35 days old. To begin with the pigs might appear listless with a dulling of the skin along with the appearance of small, dark, brown flecks on the skin where it has been damaged which can gradually spread to the whole body. The skin becomes wrinkled with flaking of large areas and can often be seen to be oozing fluid from the inflamed point which can give the greasy feel. In weaned pigs disease may commence two to three days after weaning with a slight browning of the skin that develops to a dark greasy texture. Pigs can often become dehydrated also. In severe cases greasy pig disease can lead to death as there is a build-up of toxins produce by the staphylococci organisms which damaged the liver. Greasy pig disease can also be responsible for causing ear necrosis in older pigs particularly second stage weaners.

What causes an outbreak?
The organism which is responsible for greasy pig lives on the skin surface and usually requires some form of activation mechanism to produce the disease. Damage to the skin is one of the main causes of greasy pig. This can be caused by a number of factors for example:

- Injuries or abrasions to the skin caused by floors, feeders or pen divisions. Physical damage can be associated with rough concrete floors and sometimes on slatted floors if the area on slats was too wide for the claws.
- Fighting when teeth are not clipped or skin trauma at weaning time when pigs are mixed.
- Incorrect procedures for iron injections, removing tails and teeth.
- Scratching associated with mange can give rise to skin damage.
- Abnormal behaviour such as tail biting, ear biting, navel sucking, flank biting.
- High humidity levels can produce a moisture layer on the skin, within which the organism can proliferate.

Prevention and treatment

- Be vigilant and examine the pigs to see where abrasions are coming from. Keep a close eye on any rough metal edges on feeders or pen divisions or rough edges on concrete floors and repair these problems as soon as possible.
- If you need to teeth clip or tail dock make sure these procedures are carried out carefully and correctly. Clip teeth carefully.
close to the gum making sure that there are no sharp or jagged edges that can damage the gums leading to infection around the cheeks which may become problematic particularly when piglets fight for teat access or during mixing after weaning. Remember to disinfect teeth clippers between litters. When injecting make sure that the appropriate size needle is used to match the pigs age and that sharp needles are used and changed regularly.

- Keep constant checks on ventilation making sure that the room is not too humid. Adequate ventilation will remove humidity, dust, gases while providing fresh air. If the temperature and the humidity are both high this will result in the ideal environmental conditions for the bacteria to multiply. Remember to clean fans and temperature probes on a regular basis.

- As a preventative method some units will wash the sows with a broad spectrum biocidal disinfectant to try to prevent staphylococcus in the first place. When washing sows it is best practice to wash them before entry to farrowing house and pay particular attention to the teat area as this is where the piglets will have continuous contact with the sow. In cases where there is a clinical problem with greasy pigs some units will wash the pigs also however, it’s important to do this with warm water to prevent the pigs from getting a chill.

- Operate an all-in-all-out policy for weaners and have an thorough cleaning and disinfection protocol for all accommodation making sure that houses are given sufficient time to allow them to dry correctly.

- If antibiotic treatment is required use an effective antibiotic against the strain and follow the dosage recommendations accurately. With young pigs it is very important to keep them hydrated and it may be useful to give them electrolytes if needed. Pigs should be given pain relief in severe cases as greasy pig disease is similar to a human skin burn.

To conclude, greasy pig disease is an economic and welfare disaster in any pig herd and prompt preventative measures should be taken to reduce the risk of pigs getting affected.

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**MRSA: Better safe than sorry**

Daniel Crespo Piazuelo & Peadar Lawlor

Although only a few cases of methicillin-resistant Staphylococcus aureus (MRSA) have been reported on Irish pig farms, if we are not very careful, it could be just a matter of time before this superbug is present on your farm. As MRSA can be shared between pigs and humans, it is a public health concern as well as a concern for the health of your pigs. When MRSA is suspected in human patients they are now commonly asked if they have contact with pigs or work on a pig farm. Nonetheless, the variants of MRSA found in hospital settings usually differ from the ones found on farms. The MRSA strain commonly found in European farms, CC398, rarely persists for more than 24-48 hours in the nasal passages of farm visitors. However, this short time frame is
more than enough to transmit MRSA between farms if an adequate ‘pig free’ period (>48 hours) is not adhered to between farm visits.

Mode of MRSA transmission
MRSA is found on the skin and in the nasal passages of pigs, although pigs colonised with MRSA rarely show clinical symptoms. In addition, MRSA can survive outside the pig in the dust formed from dead skin as well as on clothing, equipment, vehicles and furniture.

The classic mode of transmission is through direct contact between a MRSA positive pig and a negative one, and from the sows to their piglets at birth. However, indirect transmission is also possible, through contact with contaminated personnel, dust and equipment. MRSA has been found 300 metres from a contaminated carcass, which indicates the potential of airborne transmission. Of note, MRSA has also been reported to persist on pork, beef and chicken products, which is another good reason why pig-meat products should never be allowed on farm.

On-farm preventive measures to avoid MRSA entrance
Although extensive antimicrobial and antiseptic usage has been used to eradicate MRSA carriage in human hospital patients there is currently no treatment to eliminate MRSA from pig farms. Therefore, prevention is key in the fight against on-farm MRSA colonization. There are two main ways to reduce the risk of MRSA entering your farm setting: 1. Antimicrobial use reduction and 2. Increased biosecurity. These are nonexclusive and should be applied in parallel.

In the long-term, reduced antimicrobial use on farms will help fight MRSA spread because it reduces selective pressure and bacteria that have not developed antibiotic resistance proliferate and compete with MRSA. Additionally, transmission of antibiotic resistant genes between bacteria (horizontal transmission) is minimised, such as transmission between MRSA and other commensal bacteria and vice-versa.

To reduce antimicrobial usage, the contact between the animals and pathogens must be avoided, thus proper biosecurity is essential. In addition to the common external and internal biosecurity measures that should be already implemented on your farm, there are some measures that are especially indicated for reducing the risk of introducing MRSA:

- Provide farm visitors with masks, particularly if they have been outside the country.
- Quarantine purchased breeding stock away from the rest of the herd for a minimum period of 6 weeks. It is highly likely that MRSA could be introduced with imported breeding stock. It is therefore imperative to check in advance if they carry MRSA in their nasal passage.
- Use gloves when handling pigs and wash hands thoroughly and disinfect them with a hydro-alcoholic solution afterwards.
- Shower in and shower out upon entering and exiting the farm. Wash hair thoroughly with shampoo as MRSA can survive there.
- Wash work clothes at 60 ºC on the farm premises and wash and disinfect your hands after touching them.
- Do not bring work clothes or any equipment home from the farm as they have the
potential to contaminate other family members.

- Never bring meat products to the farm, especially if they are from abroad.

The eradication campaign of MRSA from Norway

Norway is one of the countries with the lowest antimicrobial usage in Europe. It also implements strict measures to eradicate MRSA from pig farms. Since 2014, Norwegian pig farms are monitored for MRSA presence annually. Whenever a farm is found positive, trade of live animals is restricted, and MRSA positive farms are depopulated and thoroughly washed and disinfected. Following this, a down-time of one year is imposed before the farm can be restocked with pigs from MRSA negative herds. During this time the farm is swabbed several times to ensure MRSA eradication. It would seem that this expensive and time-consuming eradication programme is working as no MRSA positive farms were found in Norway last year. As part of this programme there are increased restrictions on visiting Norwegian pig farms, especially if the visitor is from abroad.

Pig Development Department student wins Teagasc Gold Medal 2019

We are delighted to announce that our very own Hazel Rooney from the Pig Development Department (PDD) won the Overall Teagasc Walsh Fellow of the year award 2019 and was awarded the Teagasc Gold Medal at the annual Teagasc Walsh Fellowship seminar in Dublin on November 26th. The title of Hazel’s presentation was “Nutritional management strategies to optimise annual sow output and to promote the growth and development of progeny from large litters”. Hazel as many of you know worked on the DAFM funded OPTIPIG project as part of her PhD studies over the past three years. Her research was conducted in the PDD, Moorepark where her PhD was supervised by Dr. Peadar Lawlor and Dr. Keelin O’Driscoll of Teagasc and Dr. John O Doherty of the School of Agriculture and Food Science, UCD.

The objective of Hazels’ studies was to investigate targeted sow nutritional strategies during gestation and lactation that were hypothesised to optimise sow productivity and to increase the birth-weight and lifetime growth of offspring. The nutritional strategies investigated included: The effect of L-carnitine supplementation and sugar beet pulp inclusion in gilt gestation diets, the effect of L-carnitine supplementation to multiparous sows during gestation and/or lactation, and the effect of increasing sow lactation dietary energy density from 13.8 to 15.9 MJ DE/kg. Hazels findings showed that L-carnitine supplementation to gestating gilts increased the live-weight, carcass weight and muscle depth of progeny at slaughter, and feeding a high- sugar beet pulp diet improved the carcass quality of progeny at slaughter. Findings from her second
study showed that L-carnitine supplementation to multiparous sows during gestation increased litter size at birth, without compromising piglet birth-weight. Results also indicated that the muscle of piglets born to sows supplemented with L-carnitine during gestation was more developed at birth. Increasing the energy density of the lactation diet increased the sows’ energy intakes without depressing their appetite, and increased piglet vitality at birth. These findings on the maternal feeding strategies investigated in Hazels PhD could be utilised by commercial pig producers to increase litter size and pig carcass quality at slaughter, in addition to satisfying the energy requirements of high-performing lactating sows that are nursing large litters.

Hazel has recently taken up a position as a Postdoctoral Researcher with Peadar Lawlor on the TOMI project, also in the PDD. All at the PDD are delighted for this recognition of Hazels work and would like wish Hazel a big congratulations.

PDD study trip

Laura Boyle and Keelin O’Driscoll travelled to the US during November to carry out a short study trip updating themselves on recent advances in pig welfare. They started off by attending the 2nd Annual Pig Welfare Symposium, hosted by the National Pork Board, in Minneapolis. Laura was invited to attend as a guest speaker, and gave two presentations: she spoke first about the significant body of work that has been carried out in Teagasc on the relationship between pig health and welfare, and the implications for antibiotic use. This was followed by a workshop on environmental enrichment, where she spoke about the links between enrichment and the health of the animals. The conference was an excellent forum to not only learn about scientific research and hot topics in pig welfare in the US, but also to network with industry personnel and find out how the pig sector in the US is dealing with emerging issues and advances in supply chain security; panel discussions included topics such as the use of on farm welfare auditing, precision livestock farming, and preparing for an on-farm animal welfare emergency.

Following the conference, Laura and Keelin travelled to Purdue University, where they were hosted by Dr. Jeremy Marchant Forde, a member of the USDA Livestock Behaviour Research Unit, and one of the foremost pig welfare experts in the US. The purpose of the trip was to view the pig research facilities, as well as to consult on environmental enrichment research which he is commencing, due to the large body of work and experience which we have carried out and achieved in the PDD. The research unit and laboratories were highly impressive, and provided many ideas for future co-ordinated research. Finally, we would like to thank the National Pork Board and the USDA for providing funding for the trip.
ONE HEALTH: Awareness to Action
Antimicrobial & Anthelmintic Resistance Conference

The ONE HEALTH - Awareness to Action, Antimicrobial and Anthelmintic Resistance Conference, took place on November 27th in Tullamore Court Hotel and was well attended by interested agri-stakeholders. The conference focused on increasing awareness amongst farmers and professionals serving the agri-food industry. There was an emphasis on clear concise practical actions which can be taken on Irish farms to reduce their need to use antimicrobials and anthelmintics. Resistance to antimicrobials is one of the major current challenges facing the human population.

The morning session set the scene and the challenges facing farmers and professionals with the national lead for the HSE for antimicrobial resistance, Professor Martin Cormican, (NUIG) as a key note speaker. Martin Kavanagh, Veterinary consultant, outlined the Scandinavian experience of farming without antibiotics, while Dr Aine Regan (Teagasc) discussed consumer demands for antimicrobial free food. Dr Dearbhaile Morris (NUIG) highlighted the role of the environment in the development and spread of AMR. Irish pig producer Roy Gallie along with an Irish dairy, beef and sheep producer formed a farmer panel where they described their experience of farming with reduced dependence on antimicrobials.

In the afternoon attendees attended 2 sessions. One such sessions on offer was dedicated to Biosecurity and Medicated Feed for Pigs & Poultry.


QQI Level 5 Pig Course

The Teagasc PDD are now fully subscribed for the QQI Level 5 component award in Agriculture in Pigs. This course is aimed at enhancing the skills and knowledge of farm operatives. A further email will be send out to our student list in the coming month with detailed information on the course, a full timetable and link for all students to register. We are delighted to have so many students interested in doing this course.

Job Vacancies in PDD

In the coming days there will be two vacancies advertised in the PDD, one farm staff position and one farm technician position on 1 year contracts initially. The full details of the positions will be made available once applications open in the coming days at the following link: https://www.teagasc.ie/about/opportunities/current-vacancies/. If you know of suitable candidates for the position please encourage them to apply.

New Agricultural Science Degree UCC

The new Agricultural Science Degree at University College Cork, delivered in collaboration with Teagasc, was officially launched by the Minister for Agriculture, Food and the Marine, Michael Creed TD at Teagasc, Moorepark on Friday the 1st of November. The first intake of 24 students took place in September 2019. As part of this course the students recently received a lecture outlining the Irish pig industry and were given a tour of the Teagasc Pig Research Facility.