



PIG e:newsletter

Pig Information Group – Winter 2018/19 Report

Welcome to the winter edition of the PIG e:newsletter.

We have entered 2019 facing a number of uncertainties and threats on the horizon. As well as political issues, including the unresolved BREXIT settlement, there are also a number of industry specific challenges.

The pig price has drifted downwards and in light of increasing costs, notably feed, AHDB analysis towards the end of 2018 has shown that Costs of Production are now greater than income received for the first time since spring 2016. There is also the changes to APHA welfare inspections relating to both enrichment and tail docking.

The threat of African Swine Fever (ASF) remains with us, owing to the ongoing outbreak amongst the wild boar in Belgium in the area close to the French border. The French authorities have declared maximum risk level. For the UK, vigilance remains key.

There are of course bright spots out there- the UK is only 53% self-sufficient in pigmeat. Many producers have invested heavily in recent years seeing continuing gains in production efficiency from numbers reared, better FCRs and ADLWG. Wheat futures for 2019 have fallen sharply in recent months and the pig sector continues to show it's innovative and collaborative spirit with a group of industry professionals working to establish a Scottish PRRS elimination project.

Perhaps 2019 isn't all doom and gloom after all, more of a curate's egg- there are some negatives out there but there are clearly some causes for optimism.

This e-newsletter gives an insight into the work of the Pig Information Group, which comprises representative experts from SRUC's Research and Education groups and SAC Consultancy who work on various topics relating to pigs. Our primary aim is to enhance communication within the pig supply chain.

Universities Innovation Fund, from Scottish Funding Council

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Need an expert?

Contact us using the links on page 6.



Changing genetics sees a step up in performance at SRUC's Easter Howgate unit

In recent years pig finishing weights in the UK have increased and the pigs at SRUC's Easter Howgate Pig Unit are also following this trend. While pigs were leaving the unit at around 105 kg live weight a few years ago, nowadays 120 kg is commonplace.

During this time it has also been observed that days to slaughter has hardly changed. This has been evidenced in a recent growth trial, which when used along with previous data showed how growth rates have also improved significantly in the last decade.

Last year, SRUC started using a Danish Duroc as a terminal sire to our herd of Large White x Landrace sows. Some of their offspring were recently used in a trial to show that pigs on lower protein rations with optimal levels of amino acids will perform similar than pigs on high protein rations, but excrete considerably less nitrogen. Its outcomes will be for a next newsletter but the trial provided us with the first data of the considerably faster growth rate since switching to the Danish Duroc.

The graphs below are the weight gains (Figure 1) and feed conversion ratios (Figure 2) from pigs on the control rations in a series of growth trials between 2010 and 2018. Trial pigs were housed in smaller groups than under commercial practice, which would increase performance anyway and



Weighing pigs at Easter Howgate

though one should be careful about making comparisons between trials over many years, it is clear that over the years, the daily weight gains have continued to increase. 2018 saw another jump in performance, especially in the finishers, with the switch to Danish Duroc. The finisher gilts and boars in the last trial were growing at 1.4 and 1.6 kg/day!

The faster growth rates concurred with increased feed intake but did not go hand in hand with a clearly reduced feed conversion ratio though there is a trend that this is reducing over time.

This shows that step changes can be achieved through switching genetics. This has taken performance at our unit up another level and demonstrates the capabilities of the modern pig. Something to consider!

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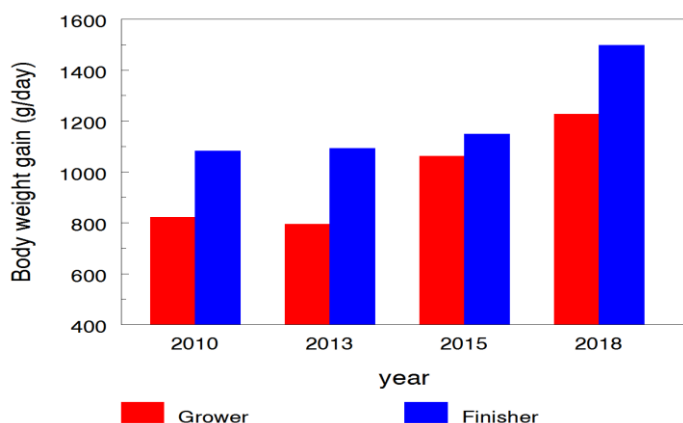


Figure 1. Body weight gain in a series of growth trials at SRUC

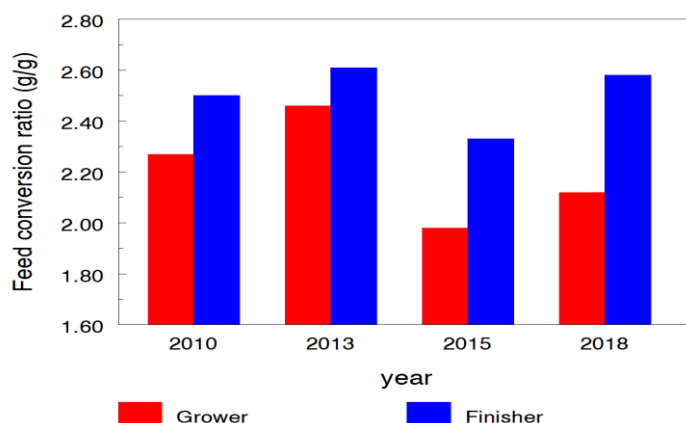


Figure 2. Feed conversion ratio in a series of growth trials at SRUC

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FOCUS TOPIC



Seasonal Infertility – Is it anoestrus or isn't it?

That most frustrating of periods for pig farmers - the window of seasonal infertility has passed once again and it is time to take stock of how much this has affected your herd.

The seasonal infertility period runs from mid-summer to late October/November and for pigs, it is physiological. The cause is linked to the enduring seasonal effects on the pig's natural reproductive activity which occurs in spite of advanced domestication and the vast genetic improvements within our modern-day commercial pigs. Pigs naturally have lower ovarian activity during the summer and autumn months and higher activity from November through to spring. The extent to which pigs are affected varies between individuals, but in general it affects gilts more than adult sows that have settled in to their regular cycle of reproduction. A rise in the number of pigs in anoestrus is often reported. **So, how good were you and your team at knowing what your females were up to?**

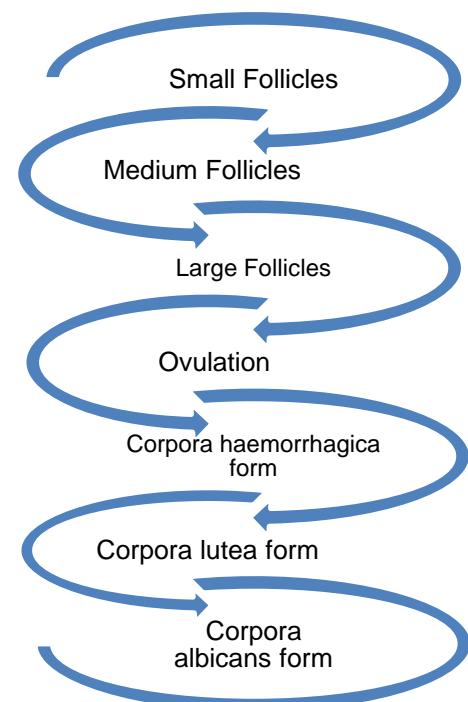
Anoestrus (when ovaries stop being active and go 'dormant', so to speak) shows in the following ways:

- **Puberty is delayed** (beyond 8 months of age)
- **Gilts fail to cycle after their first heat**
- **Non-pregnant sows fail to come into heat**
- **Sows show no sign of oestrus by 10 days post-weaning**

Infertility (including anoestrus) is the biggest cause of premature culling of gilts and sows. Examining the reproductive tracts of cull animals after slaughter has given us further insight into the issue as it affects local farms. At the producer's request to Quality Meat Scotland, Allan Ward has collected

the reproductive tracts, identified to specific problem gilts or sows and delivered those for examination, along with background history for the animal from the producer. A lot of information can be gleaned from this type of examination. For today, we are focussing on the ovaries, and asking the question - ***what situation were they in when the animal was culled?***

The ovaries house a number of structures and their appearance (or disappearance) is dynamic and driven by hormonal activity. The order to activity goes as follows:



All that happens over the 21 days of the oestrus cycle. If the sow falls pregnant the cycle stops at the corpora lutea stage as they produce progesterone needed to maintain pregnancy. If gilts or sows go into anoestrus none of that happens. The ovaries remain small and inactive, showing only small follicles that show no sign of development.

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Is the problem really anoestrus?



So, what did we find when we examined 60 tracts from pigs with a history of anoestrus?

- **18% were genuinely in anoestrus** with no apparent reason to explain it (no birth defects nor abnormalities like cysts or infections)
- **15% were pregnant**, some at quite an advanced stage
- **10% had cystic ovaries** (this happens due to hormone imbalance)
- **2% had birth defects** (such as intersex, where the gilt has one ovary and one testicle instead of the second ovary)
- **55% showed normal ovarian activity, with nothing to explain why oestrus had not been detected by the farm staff.** These animals can be described as having pseudo-anoestrus (or pretend anoestrus)

Not surprisingly, most of the anoestrus examinations were requested during the late summer/autumn months, so this is a time when pseudo-anoestrus gives the biggest problems.

Service personnel need to put extra effort into heat detection over this time, and not let oestrus slip by unnoticed. The pregnant culls are very frustrating for farm staff but knowing that this has happened turns the spotlight on testing procedures and how they can be improved.

As for the genuine anoestrus cases, your vet can help and advise with this. Hormonal treatments can be used but BEWARE, if used at the wrong time on females that are actually cycling, they can do harm and cause cystic ovaries, so it is vital to take your vet's advice and be sure that the sow is genuinely in anoestrus. Two or three progesterone tests taken a week apart will confirm anoestrus or tell you if she is cycling, or pregnant. For this the lab only needs a few drops of blood collected into a tiny tube. Your vet might be happy to train you to do this from ear pricks.

Your vet may also help you interpret the results in order to answer the difficult question – is it genuine anoestrus or pseudo-anoestrus?

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Left. 10 tiny piglet foetuses and placentas from one uterine horn of a sow culled for anoestrus. The other horn contained a similar number of piglets. Stage of pregnancy was approximately 35 days
Right. Example of a uterine tract from a gilt with infertility due to polycystic ovaries.

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Knowledge Transfer



Keeping a small herd of pigs and need advice? Try downloading SRUC's pig keepers webinars.

A team of researchers and a vet from SRUC have produced an innovative series of webinars aimed at small-scale pig keepers¹. The webinars looked to provide essential husbandry, management and legislative advice to both current and future pig keepers.

The first webinar, presented by Carla Gomes and Caroline Robinson looked at the following:

- The registration requirements related to pig identification, holdings and movements
- The considerations keepers should have when starting to keep pigs from site selection to sourcing stock
- Biosecurity
- Health requirements and assessments of piglets and weaner pigs, vaccines and best use of medicines and a reminder to always consult your vet for advice.
- New disease risks, such as African Swine Fever, were also considered.

The second webinar (with Emma Baxter and Caroline Robinson) covered pig welfare and behaviour and discussed

- "What to expect when your sows are expecting" showing a timeline of the various events around farrowing from understanding the sow's behaviour and how nest building is linked to good maternal behaviour
- Practical tips on how best to prepare farrowing accommodation for both sow and piglet.
- The four main causes of piglet mortality (stillbirth, hypothermia, starvation and crushing by the sow)
- The importance of colostrum for both nutrition and piglet health and how to recognise when piglets might require extra assistance.
- The webinar also contains many links to more information on the topic of farrowing.

1. *Funded by the Universities Innovation Fund (UIF) from the Scottish Funding Council (SFC) and the Veterinary and Advisory Services (VAS) Public Good budget provided by Scottish Government*



Outdoor pigs being fed vegetables

The third webinar, with Jos Houdijk and Caroline Robinson focused on nutrition covering

- Typical pig feedstuffs and their ability to deliver sufficient nutrient intake.
- The pros and cons of vegetable waste.
- Banned feeds e.g. kitchen waste
- The use for silage for sows as an alternative to nuts, providing both fibre and improved welfare
- How peas, beans and rapeseed meal have potential as an alternative to soya bean meal.

The talks have been recorded and are free of charge. They can be accessed through the following links:

Pig health, biosecurity and legislation:

<https://attendee.gotowebinar.com/register/6109430156847910913>

Pig Welfare and Behaviour:

<https://attendee.gotowebinar.com/register/3008260909240638721>

Pig Nutrition:

<https://attendee.gotowebinar.com/register/8983896599482322177>

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The PIG e:newsletter was produced by the Pig Strategy Group at SRUC through funding from the Universities Innovation Fund, from Scottish Funding Council. Should you wish to know more about any of the articles featured or wish to find out more about SRUC pig related activities please contact the following or click on the links below.

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Not in picture: Calum Johnston, Hannah Orr